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PAGE

ADDRESS.

PROGRESS IN SURGERY IN 1891. By Prof. Thomas G. Morton, M.D. - - - - - - - 97

OBSERVATIONS UPON NATIVE DISEASES SEEN DURING THIRTY YEARS' RESIDENCE IN EQUATORIAL AFRICA. By Rev. R. H. Nassau, M.D., D.D., Univ. Pa. - - 109

PAGE

ORIGINAL ARTICLE.

THE NERVOUS AND MENTAL PHENOMENA AND SEQUELÆ OF INFLUENZA. By Charles K. Mills, M.D. - - - - - - - - - - 112

EDITORIAL.

DOES VACCINATION AFFORD IMMUNITY FROM INFLUENZA? *Stewart* - - - - - 119

PAGE

BOOK NOTICE.

Book Talk - - - - - - - - - - - - 120

THE MEDICAL DIGEST.

Temperature Variations of Mania. *Hattie.* 118
Gastric Headache. *Hosp. Gaz.* - - - - - 118
Strontium. *Dujardin-Beaumetz* - - - - - 118
Epidemic Influenza - - - - - - - - 118

MEDICAL NEWS AND MISCELLANY, 121

NOTES AND ITEMS - - - - - - - iv, x

Address.

PROGRESS IN SURGERY IN 1891.[1]

BY PROF. THOMAS G. MORTON, M.D.

WHEN Mr. Erichsen was in this city, a few years ago, in the course of conversation he remarked that, in his opinion, surgery had then attained its highest plane and reached its limit of usefulness, and nothing in the way of improvement or advance need be looked for except in detail of technique. I quote this statement made by one well-qualified by erudition and experience to entertain an opinion of the attainments and possibilities of surgical practice, merely to prove that no one could have foreseen the recent advances made in this department of the medical art, nor have predicted the revolution that has been brought about within the last few years. We now daily perform operations upon the great cavities of the body, remove tumors from the brain, and excise portions of other vital organs; we open large joints and perform major amputations, with a degree of ease and confidence that a few years ago would have brought down upon us the indignation of the community for our reckless disregard of the lives and safety of our patients, and the mere suggestion of such operations, at that time, might have been regarded as the vagaries of a disordered mind. Admitting this to be true, as every one must, and recognizing the great change which has taken place, not only in the character of the operations performed, but also in the results, the avoidance of suppuration and its dangers, and the greatly decreased mortality rate after ovariotomy and grave operations, we just begin to realize the magnitude of our obligation to the genius of Mr. Lister, who first recognized the infectious character of suppuration and showed surgeons how to avoid wound-infection, and thus prevent septicæmia and pyæmia. Since the conditions underlying the infection of wounds and the pathology of pyæmia have been demonstrated, and the various forms of bacteria commonly found in pus discovered and fully described, it is no longer merely optional with surgeons that they should observe antiseptic precautions, but it is imperative. In Europe, on the Continent, a surgeon is liable to severe penalties if he should neglect to apply antiseptic dressings, and in this country, public opinion is setting strongly in this direction. Indeed, should a surgeon fail to practice antiseptic precautions, he would have considerable trouble of acquitting himself in case he should have a bad result followed by a suit for malpractice.

In selecting a subject worthy of the dignity of the annual address before the Philadelphia Academy of Surgery, I thought that I could not fulfill the duty assigned me in a more satisfactory manner than by reviewing some of the prominent features of the work of the past year in the field of general surgery. I ventured to premise the above observations with regard to antiseptic surgery, because I wished to give all possible emphasis to the teaching of Mr. Lister, and to declare my firm belief that antisepsis in surgery is the greatest invention of the age, possibly not even second to anæsthesia itself. It has elevated surgery to a plane far beyond that which its best exponents deemed possible, scarcely a decade ago.

In presenting the subject of this annual address, I have found a somewhat dissimilar mass of material at my disposal, from which, however, I have made such selections as seem to be more important, and in order to follow some system, and also for convenience in consideration, I will present to you first, operations upon the skull, brain and nerves, then the various operations upon the addominal organs, the blood-vessels, deformities, transplantation of tissue, malignant disease, and miscellaneous work generally.

[1] The Annual Oration before the Academy of Surgery of Philadelphia, delivered January 4, 1892.

TREPHINING THE SKULL.

A large number of operations upon the skull for the treatment of lesions of the brain, both traumatic and pathological, have been performed during the year 1891, and much attention has been given to the subject of what is termed "brain surgery." The present status of this department of operative procedure was carefully reviewed by our ex-President and Fellow, Dr. D. Hayes Agnew, in a paper read at the meeting of the American Surgical Association last September. His conclusions are based not only upon his own wide experience, but also upon other Philadelphia surgeons and Fellows of this Academy. They are, therefore, to be taken as a judicially weighed decision upon certain questions of present interest and pressing importance, and have been received as such by the profession. His conclusions are:

"1. That all fractures of the skull attended with depression, however slight, and entirely irrespective of symptoms, should, in view of the late after-affects, be subjected to the trephine.

"2. That trephining for traumatic epilepsy promises only palliation at best.

"3. That trephining for Jacksonian epilepsy is to be regarded as only affording temporary benefit.

"4. That trephining for abscess, in view of the fact that all such cases left alone almost invariably terminate fatally, is entirely proper, and that the earlier such operation is done the better.

"5. That trephining for intracranial traumatic hemorrhage is both an imperative and highly promising operation.

"6. That trephining for cephalagia, or traumatic epilepsy (medical measures having failed), should be undertaken with every prospect of success.

"7. That trephining for hydrocephalus is a useless operation.

"8. That trephining for microcephalus, independent of athetosis, confers no credit upon surgery.

"9. That it is more than probable that as our observations mutiply, the sphere of the trephine as a preliminary for the removal of brain tumors will be lessened rather than amplified."

While upon this subject I might briefly refer to a case of gun shot wound through one of the hemispheres of the brain, occurring during my present service at the Pennsylvania Hospital, which illustrates the importance of drainage in lesions of this kind.

Mr. ———, nineteen years of age, having inflicted upon himself a suicidal wound of the brain with a pistol, was brought to the hospital a few hours later in an unconscious condition. He had a bullet wound in his forehead a little to the right of the median line. He was comatose most of the time during the next two days, only occasionally lifting his hand to his head and clutching his hair with his fingers. Owing to my absence from the city I did not see this patient until forty-eight hours after admission. Upon inserting a flexible probe it was found that the track of the bullet passed directly backward through the right hemisphere until the parietal bone was reached. Feeling assured that this was not an aseptic wound, I determined to give the patient the benefit of drainage and irrigation. The trephine was applied posteriorly at a point corresponding with the line of the wound, and a softened collection or commencing abscess was discovered at this point, as if the posterior convolutions had been churned up by the ball after it had been checked by coming in contact with the inner table of the skull at this place.

After removal of the disorganized material, I inserted my little finger into the cavity, and found the bullet a short distance below the point selected for trephining, and removed it. A rubber drainage-tube was next passed directly through the hemisphere from front to back along the track left by the bullet, and warm boiled water was passed through until it came away clear. The patient improved shortly after the operation and appeared to notice what was going on around him; he did not speak, but he followed the movements of those around him by directing his eyes, as if he were intelligent and conscious. The wound did well, but the patient died three days later from exhaustion. Although the operation was performed at a late hour, after the patient had been comatose for two days, and inflammatory re-action had set in, there is no question whatever about the immediate good results from irrigation and drainage in this case. It is evident that the removal of the bullet, and other foreign matter, in such a case would justify the operation, and would yield to the patient immediate relief and greatly improve his chances for ultimate recovery.

CRANIECTOMY, OR LINEAR CRANIOTOMY, FOR MICROCEPHALUS.

M. Lannélongue presented at a recent meeting of the French Surgical Congress, a report of a number of cases, twenty-five in all, in which the operation was performed. The future histories of such operations will be required to show, as pointed out by Dr. Ransohoff, who has also reported a case, whether the "defective brain growth is the result of early synostosis of the cranial sutures or the reverse obtains."

Dr. I. R. Trimble, of Baltimore, who claims to have been the first to perform the operation in America, reports an improvement in a case he operated on, at the end of two months.

Dr. Wm. H. Morrison, of Holmesburg, one of the suburbs of this city, operated some eight months ago upon an interesting case.[1] In reply to my inquiry as to the patient's condition at this time, Dr. Morrison writes as follows:

"In reply to your inquiry with reference to the case of linear craniotomy, I would say that the boy is now three years and three months of age, the operation having been done seven and a half months ago (April 7). The improvement has been continuous. He plays intelligently with the other children, asks for food or drink when he wants it, has quite an extensive vocabulary, talks as a child would do to his playmates, knows whether or not he wants a certain thing and says so when asked, seems to comprehend what is said to him, and, on the whole, it may be said that his mental condition is about that of a child twelve or eighteen months of age.

"There is still some lack of development of the muscles of the leg; there is a tendency for the ankles to give way under his weight and he has great apprehension of falling, but he will stand indefinitely by the side of a chair and will walk as the chair is pushed. He enjoys grasping the finger of some one and walking across the room. He clambers on low stools and seats and plays 'horses.' His latest achievment has been when left sitting on his high chair, to climb upon the seat and stand there. At parting, he waves his hand and says 'good-by.'

"His present condition is in marked contrast with his condition prior to operation, and the improvement can, I think, be justly attributed to the operation."

[1] *Medical News*, January 3, 1891.

Dr. Keen writes me in reference to this operation as follows: "Up to the present time I have done nine linear craniotomies, the earliest one November 19, 1890. Of this number three died immediately after the operation from shock. The other six have improved to some extent. As yet I do not feel that I can formulate any opinion further than to say, that the very sanguine views put forth by Lannelongue in both his papers are, I think, not justified. That it will do some good I am inclined to believe."

As Dr. Ransohoff well states,[1] "The conditions of the microcephalus are so deplorable, that any interference promising a shadow of success seems to me justifiable."

Hemorrhage from divided scalp vessels is the main source of danger, and this can be overcome by the Esmarch strap.

The poor success which has been had in cases of tapping the brain for chronic hydrocephalus has led many to doubt the propriety of such interference. Even with the aid of the most recent appliances, modern operators have failed to obtain the results reported by Dr. Conquest some fifty years ago,[2] who claimed to have operated upon nineteen cases, and in ten of these successfully. In one of his cases two pints of fluid were removed by the operation, which was followed by a convulsion. Yet she was seen by Dr. Conquest two years and a half afterwards, perfectly well, and in complete possession of her intellectual faculties. As Dr. J. Hughes Bennett says, in commenting upon these cases,[3] "With such facts before us, it is clear that the operation is warrantable when, from an absence of complication, there is reasonable hope of success."

AS SHOWING THE BRAIN TOLERANCE FOR CLEAN FOREIGN BODIES.

Dr. Richard Slee, of Brooklyn, reports[4] that at the autopsy in a patient who died of general septic peritonitis after laparotomy for penetrating gun-shot wound of the abdomen, he found on removing the brain a sharp projecting point in the posterior fossa. A section of the skull revealed the presence of a portion of a knife-blade 5-16 of an inch wide which projected an inch into the brain. It had entered the skull about 3¾ inches posteriorly to the external auditory meatus and penetrated the lower posterior portion of the occipital lobe. The man was thirty years of age, and there was no history as to when accident happened; but it had probably been in the location in which it was found for many years.

OPERATIONS FOR THE RELIEF OF NEURALGIA.

The results of the various operations for the relief of spasmodic facial neuralgias, more especially painful tic, have been so discouraging that any treatment which offers improvement on former methods should have our careful consideration. For this reason Dr. Edmund Andrew's recent article on repeated operation upon the same nerve for chronic facial neuralgia[5] is deserving of more than passing notice, although in the suggestions made there is nothing specially new. The author believes that such neuralgias are peripheral and seldom central, that the source of irritation is commonly a decayed tooth or some maxillary disease, causing neuritis, which becomes progressive and finally invades the main nerve trunks. Dr. Andrews states that in searching for the stump of a previously resected nerve, the operation proved successful, although no nerve filament even could be found, and was probably due to the traction which was incidentally made upon the cicatricial disc resulting from the former operation. He operated finally by twisting its internal prolongation and dragging this out with the associated cellular and other tissues, thus stretching the nerve anew.

As is well known, most cases of facial neuralgia are temporarily cured, or relieved, by resection of the nerve, and also that many cases, after months or years or even less time, suffer from a return of the pain. Most cases of facial neuralgia are benefited by operation; some appear absolutely cured. In one case I have known twenty years to elapse without a recurrence of pain; in other cases pain becomes less severe, or more tolerable at least; then pain may again return with greater severity.

In operating in these recurring neuralgias, the tissues in the neighborhood of the original wound are opened up, and surrounding structures are torn out, just as is the bulbous stump of the nerve, if found. This is practically the process advocated by Dr. Andrews.

By operating in this manner, not only is the main nerve trunk stretched, but in the sectioning and excising of the adjacent tissues, small nerve-filaments are doubtless divided. These may be minute, unobserved nerves which have been the means of re-establishing sensory communication between the ends of the excised nerve trunk, acting in the same manner as the neighboring vessels do, when the collateral circulation is established after a main artery in a limb has been ligated. For these reasons, I have always advised and performed with more or less success, repeated operations in these recurring neuralgias.

In the *Boston Medical and Surgical Journal* for July 16, 1891, I find an appreciative article contributed by Dr. E. H. Bradford, under the title of "Metatarsal Neuralgia, or Painful Affection of the Foot," which I originally described some years ago. Possibly a very brief extract of this paper may be of interest in connection with a letter which I shall presently read. Dr. Bradford says that the disease consists of a form of neuralgia of the foot, which was first thoroughly described by myself. The affliction is not an uncommon one, but has hitherto attracted but little attention. The cases are usually classed among the ill-defined hysterical or nervous affections, or they are deemed to be gouty, as in the minds of many practitioners are frequently all painful affections of the toes: "The pain"—and I quote Dr. Bradford—"is situated at the base of the fourth toe, and often, in severe cases, radiates up the leg. It may be of a dull character, or it may be throbbing and extremely severe. Ordinarily the pain is spasmodic, or is worse at intervals. At times, in some instances, it is so severe as to entirely prevent walking, and the patient has to sit down and rest for a few moments. The pain is usually not severe at night. It is aggravated usually by local pressure over the head of the metatarsal bone or by squeezing the foot with the hand. On inspection of the foot, nothing can be observed." To this admirable summary of the symptoms I can add only that the dis-

[1] *Medical News*, June 13, 1891.

[2] Lancet 1837-8. Vol. I, page 890.

[3] Clinical Lectures on the Principles and Practice of Medicine, by John Hughes Bennett. Fourth edition, Edinburgh, 1865. Page 427.

[4] *Medical News*, July 25, 1891.

[5] *Medical News*, February 14, 1891.

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ease is not rare among young or middle-aged adults, and in many cases there seems to be no cure; in others it appears to be dependent upon some sprain or twisting of the foot. In certain cases it appears to be dependent upon, in part, to ill fitting shoes. As I have already contributed papers upon this subject to proceedings, I merely will ask your attention to the following letter describing a typical case:

Under date, December 10, 1891, from Mr. M., of Hagerstown, who writes: "My wife suffered eight years with pain in the fourth toe of each foot. She has been compelled to go about the house either with only loose slippers, or without any covering on the feet except stockings. The pain made her very nervous; was unable to attend church or go into society, since the acute pains were liable to come on at any time so severely that she was obliged to instantly remove the shoe. Before and since we were married she was treated by several physicians, but had no relief. Since then I could plainly see that her health was breaking down.

"The physicians we consulted thought the pain came from tight shoes, and advised all sorts and kinds without avail."

This patent came to Philadelphia early in June last, and I operated on both feet at the same time, excising the joint of the fourth toe. On the second day the patient left the city, and ever since has been absolutely free from pain. I have never known of a recurrence of pain in any case, nor any difficulty in walking or wearing any kind of shoe after this operation.

ABDOMINAL SECTION FOR GUN-SHOT WOUNDS.

Although the medical journals have been of late more or less burdened by dissertations upon the treatment of gun shot wounds of the abdomen, which contain little that is new or important, an exception must be made in favor of the interesting and valuable paper on the subject, which appeared in the *American Journal of the Medical Sciences* in March last, written by Dr. William B. Coley, of New York. In this contribution, reference is made to an article by two French authors, M. Reclus and M. Nogués, in which the so-called "American" system of treating penetrating gun-shot wounds of the abdomen is severely criticised, they advocating a return to the former method of non interference, and presenting, in support of their views, a table of cases in which the mortality rate of but 25 per cent. is acknowledged in these grave injuries. When it is known that the treatment, or rather non-treatment of gun-shot wounds of the abdomen in the past, presents in all cases a mortality rate of more than 80 per cent., and that this rate has been reduced by modern methods, it is difficult to understand why any one should advocate such a retrograde step, which, in many instances, would simply allow the patient to perish without any attempt at rescue.

"In his recent tables, containing 88 cases, with only 22 deaths, M. Reclus, the author would have us believe that out of 88 cases of penetrating shot-wounds of the abdomen, 75.7 per cent. recovered under conservative treatment.

"Without in any way casting the slightest suspicion upon the trustworthiness of the statistics or the conscientiousness exercised in the selection of cases, it can still be claimed that the tables prove *absolutely nothing* as regards the comparative merit of the two methods of treatment. The cases referred to are either cases which have been collected from published reports in the various medical periodicals, or cases which have come under the immediate observation of the writers themselves."

"Verchére, carefully reviewing the thesis of St. Laurens, which forms the basis of M. Reclus' argument, says: 'From this we conclude, with the *Americans*, that every penetrating wound of the abdomen is a perforating wound, and that every perforating wound of the small intestine is fatal, and, save with very rare exceptions, followed by death.'"

Dr. Coley presents the statistics of 165 cases of penetrating gun-shot wounds of the abdomen treated by laparotomy, showing 54 recoveries and 111 deaths —a mortality of 67.2 per cent. He recommends in these cases:

"1. *Exploratory incision* in the region of the wound to ascertain whether or not it is *penetrating*.

"2. If penetrating, *median laparotomy* as soon as possible after the injury has been received, unless suffering from shock.

"3. Signs of peritonitis, just beginning or well developed, while diminishing the chances of success, are by no means a contra-indication for *operative interference*."

The hydrogen-gas test, which was promptly accepted by some surgeons, and as fully rejected by others, appears not only to be a misleading test, but a dangerous one, and even if insufflation should be considered advisable, atmospheric air would seem to be equally useful.

Dr. Coley thinks that the chief objections to the hydrogen test are well stated by Dr. Arthur T. Cabot, of Boston,[1] as follows:

1. The test is not an infallible index of the condition of the alimentary canal.

2. The danger of producing infection of the peritoneal cavity.

3. It shows nothing as to the condition of other viscera, wounds of which frequently demand operative interference.

4. It prolongs the operation; interferes with respiration; adds to the shock.

5. It increases the liability of the sutured wounds to give way.

With reference to wounds of the intestines and their results, we recall the experiments made to determine disputed questions of operation by the founder of this Academy and its first President, Dr. S. D. Gross, half a century ago. He found that much depended upon the nature of the vulnerating body, the character of the lesions, their number and location, their size, and other circumstances attending each case. Simple incised wounds are promptly followed by eversion of the mucous coat and muscular contraction, which is sufficient of itself to completely close wounds four or five lines in length; and in dogs, such wounds healed without sutures, while larger ones required one or two Lembert stitches.

In gun-shot wounds this eversion of the mucous membrane takes place to a much less extent, or not at all, thus making fecal extravasation almost inevitable. When fecal pollution of the peritoneum occurred, he found that death from peritonitis was the rule. Gun-shot wounds of the large intestine, however, he found less fatal than those of the small instestine. He believed that where extravasation of fecal matter has taken place, inflammation of the peritoneum will follow within a very short time, probably within less than an hour after its occurrence. It would seem that with the comparative safety at the present day of exploratory operations

[1] *Boston Medical and Surgical Journal*, 1889, p. 81.

upon the abdomen, it would be the part of wisdom and prudence, in any doubtful case of penetrating wound of the abdomen, to give the patient the benefit of the doubt, and operate, knowing that the risk is not materially increased, while the probability if not certainty of detecting a perforation of the bowel, should one exist, would fully warrant such a truly conservative course.

LAPAROTOMY FOR INTESTINAL PERFORATION IN TYPHOID FEVER.

The question of laparotomy for intestinal perforation in typhoid fever is one of present interest to both physicians and surgeons. Dr. Weller Van Hook, of Chicago, has recently published a report of a successful case in which, however, the perforation occurred not during the progress of the fever, but in a relapse, which came on after two weeks of normal temperature, during which time the patient was going about attending to her household duties. "On the seventh day of the supposed relapse, the bowels not having moved for thirty-six hours, an enema of warm water was given. This, in a few hours, was followed by two passages, and by a third at four o'clock A.M. of the eighth day. At five o'clock, she was attacked suddenly with great pain in the ileo-cæcal region, followed by a cold sweat, coldness of the extremities, and an excessively pinched and anxious expression of countenance. Her temperature was 105.5°, with a quick, wiry pulse of 126. Laparotomy was performed at 2.40 P.M., and the incision made in the median line of the abdomen. The incision was two and a half inches in length. No gas escaped, but more than a pint of fluid feces and exudate, with floculli of lymph, were removed. There was general peritonitis. The lesion of the small intestine was readily found. It was irregularly circular, and about two millimeters in diameter. Several spots of ulceration down to the outer coat of the intestine were seen. The opening was closed with three longitudinal rows of Lembert sutures; the gut walls were so thick and brittle from œdema that three rows were thought necessary to insure strength. Only about two and a half feet of intestine altogether were exposed. The abdominal cavity was thoroughly washed out with hot, sterilized water. The omentum was carefully drawn over the injured coiled of intestine, and sutured to the mesentery. A large drainage tube was passed to Douglas' cul-de-sac, and the remainder of the abdominal wound closed. The patient appeared moribund the following morning, with an enormously distended abdomen and the temperature high. Tympanities was relieved by enemata of sulphate of magnesia, glycerine and water, which produced free watery passages. The temperature remained at 103° for four or five days, when the symptoms of peritonitis began to disappear. The typhoid ran its course to defervescence, and ended in two and one-half weeks. The patient at the time of the report was enjoying perfect health." The same operator reports two other cases of operation during the course of the original attack, both of which perished of peritonitis.

The statistics of laparotomy for typhoid perforation, as given by Van Hook, shows nineteen cases; of these, four recovered. Among the latter is the one which has just been referred to; in the other three, the diagnoses are so doubtful that they should not be accepted. One reported by Mikulicz, in 1884, was stated by the operator to be very uncertain. Escher's case, in 1886, was probably an appendix perforation; and Taylor's, in 1891, was operated upon very early in the course of the disease, and was not proven to have been a typhoid perforation. Van Hook's paper presents the following conclusions:

"1. There is no rational treatment for perforation in the course of typhoid fever, except laparotomy.

"2. The indication for laparotomy when perforation occurs in typhoid fever is imperative.

"3. The only contra-indication is a moribund condition of the patient.

"4. Collapse is often at least temporarily relievable by hot peritoneal flushing.

"5. The stage of the fever is not to be considered as an indication, or as a contra-indication, for laparotomy.

"6. The severity of the typhoid fever is alone not a contra-indication.

"7. Early laparotomy offers the most hope.

"8. The symptoms of peritonitis should not be awaited before operating."

In a paper on abdominal section for perforated typhoid ulcer, read before the Fellows of the Academy, on December 5, 1887, I stated that, so far as I was aware, the case reported represented the first operation done in this country for the repair of a perforated typhoid ulcer. Unfortunately, the operation was not undertaken until many hours after the accident had occurred, but the patient's condition, even at that late period, gave sufficient encouragement to warrant its performance under most trying circumstances, and which, I believe, in no wise hastened the fatal termination.

Subsequently, Dr. Bontecou, of Troy, N. Y., reported an unsuccessful case upon which he had operated some months previously. In regard to the time for operation, I then stated that, as soon as the diagnosis of perforation has been made out, the operation should be immediately performed; every moment of delay increases the danger of the situation; indeed, if any successful results are to be chronicled, those operations which are undertaken immediately after the perforation will unquestionably be the successful ones.

This is practically the same conclusion that the authors of recent contributions have reached, and I am glad that further experience has only confirmed the opinions I formed at the time of reporting this case to the Academy.

APPENDICITIS.

No subject in the entire range of surgery seems to have attracted so general attention, and deservedly so, during the past year as appendicitis.

Simple and perforating forms of this disease are now more promptly recognized, and more successfully treated. Consensus of opinion unquestionably has declared in favor of section and removal of the appendix when perforation has occurred. Whether a diseased appendix should be removed in the interval between attacks or not, yet remains an open question.

In May last, I read a paper on appendicitis and peri-cæcal inflammation, with cases illustrating unusual difficulties in diagnosis, before the American Medical Association, and reported an instance of gangrene of the organ, abscess and necrosis of the bowel, without any attendant symptom indicating this grave abdominal lesion. In another case, general induration of the lower part of the abdomen (the result of inflammatory exudation which protected the peritoneal cavity until abscess reached the bladder) was by several surgeons believed to be sarcoma, even after exploratory section. This patient made an excellent recovery.

In two cases, which afterwards were found to be typhoid fever, the history of recurring appendicitis,

made it at first impossible to differentiate between appendix disease and typhoid; the most recent of these cases was seen by Dr. DaCosta in consultation, and it was impossible to effect a diagnosis until the rose-colored spots appeared.

The daily temperature record should also aid in making the diagnosis, since in appendicitis the temperature rarely, if ever, rises above 102°, and is generally below this point, whereas in typhoid it may be several degrees higher, even in the early stage. It has generally been thought that perforation with abscess would always be accompanied by a chill and more or less sweating; but I have seen cases, in which pus was subsequently found, without any history of chill or sweating.

The most recent illustration of the difficulties in diagnosis occurred at Williamsport in October last, in the case of Dr. J. A. L. Burrell, a prominent practitioner of that city. He was a large, vigorous man, in weight about two hundred and ten pounds; forty years of age; had always enjoyed good health, and had attended to his practice until the previous day, when, after a hearty lunch at noon, he was seized with vomiting, the last discharges from the stomach being accompanied by a large amount of arterial blood. Severe abdominal pain, which was located in the epigastric region, followed.

When I saw the doctor, twenty-four hours afterwards, he was free from pain, and expressed himself as being very comfortable. It was impossible, after the most careful examination, at that time to make a diagnosis, which, indeed, was not established until after death, which occurred more than two days subsequently. The following extracts of a letter recently received from Dr. Nutt sufficiently explains:

"Taking the doctor's case when you saw him, I did not think you could make anything out of it of a positive nature, and your decision not to operate was not a surprise. The symptoms and indications at your visit were not positive enough to me to warrant an operation. At the time you were here the doctor had not shown any very alarming symptoms, although the first shock and chill indicated serious lesions; he was under the influence of an anodyne to some extent, and presented none of those characteristic symptoms indicating suffering or peritonitis. The next morning he began to have the regurgitation from his stomach of a dark grumous material, which continued, more or less, all day.

"About 9 A. M. Saturday, there was a consultation of several physicians, and their opinion was that he could not live many hours unless some operation could relieve him. His pulse was 130; weak; still vomiting, and had no motion of the bowels. There was no more evidence of where the injury was than when you were here.

"I operated in the median line, and found greatly distended bowels, inflamed and of a dark color; a small quantity of colored fluid flowed from the wound. On passing my finger to his right groin there was a flow of thick pus. I could not reach the appendix on account of thick walls and distended bowels. I then drew his wound together, and made a lateral incision over the appendix; here there was a considerable quantity of pus. I could not see, nor feel, any opening in the appendix, so was not certain that was the location of the rupture. There was no pus sack around it; but pus was in the peritoneal cavity. I made an artificial anus and stitched the opening to the abdominal walls. He soon re-acted, and was perfectly conscious till three o'clock P. M., when he died.

"A post-mortem was held that evening, and the condition of the parts about as I have told you, with a perforation of the appendix near its end. There seemed to be an old ulcer on the inside, over the mesentery, and the rupture occurred on both sides of it. The appendix was very short, and had a mesentery clear to its end, and was bound down somewhat under the cæcum. It would have been a very hard matter to have gotten it out through the thick abdominal walls, even if an early operation had been done; it never could have been excised from the median line."

Unfortunately, such difficulties are likely to occur at any time, and it seems absolutely impossible to establish the diagnosis in the absence of the ordinary characteristic symptoms, especially is this the case when morphine from the first has been freely given.

The following letter, which I recently received from Dr. I. E. Allaben, of Argyle, Ill., contains such an interesting account of his experience in appendix disease as to be worthy of report:

"I have been greatly interested in the subject of appendicitis and inflammatory affections of the cæcum, as presented by you in your paper on this subject before the American Medical Association at its last meeting.

"I have had at least a dozen cases of a mild form during the last three years in a country practice about this little village. Your paper seems most timely and interesting. The fact is, even with the most of good and intelligent physicians and surgeons, the frequency and importance of this malady has not impressed itself upon their minds. About a year ago I saw a young woman die of peritonitis, which I am certain originated from a perforated appendix. An intelligent man, whom I had in counsel, would not consent to having laparotomy performed.

"About a week ago I diagnosed a case as perforating appendicitis, with peri cæcal abscess. Called two intelligent men for counsel, who agreed with me that an operation alone gave the patient a chance for life. But when I opened the abdominal cavity by a lateral incision, and evacuated a quantity of stinking pus, they declared that the object of the operation had been accomplished, viz.: the evacuation of the pus, and claimed that I was not justified in carrying the dissection further to find the appendix and remove it, although the patient was standing the operation well.

"I was but a young man, my counsel much older, and I felt that I could not go further without their consent, though I had commenced the operation with the intention of removing the appendix.

"Patient died twenty hours after operation from exhaustion. I had the opportunity of demonstrating to my counsel that the entire appendix approached a condition of gangrene and was perforated in two places.

"In a letter I received from one of them, he says: 'I certainly must commend you for the skill in first, making so accurate a diagnosis, and secondly, in performing so courageously a delicate operation. Make an operation as complete as you intended to without suggestion from any one else, viz.: remove the appendix, next time.'

"I think you will be interested in a report of this case, as it helps to corroborate your claim that in all cases like this one, the appendix is always the source of the trouble and should be removed.

"A strong man, aged thirty-seven years, was first seen Saturday evening, October 3, 1891. Had complained of a slight pain in right iliac region one day before I was called in, was very tender to pressure,

slight bulging, no redness or œdema of skin. Percussion revealed dullness as far as median line of abdomen. Retention of urine, bowels had been constipated, but he had taken a dose of Epsom salts in the morning, which operated during the day. Pulse 100, temperature 102° F. Diagnosed the case appendicitis, probably perforation and peri-cæcal abscess.

"There was a history of a slight attack two years ago. As it was night and help a long ways off, an operation was not considered advisable at that time. Saw patient at six o'clock Sunday morning; had been restless and suffered considerable pain in the lower part of the bowels. Had vomited a number of times. Physical examination showed same conditions as on the previous day. Abdominal muscles rigid, thigh flexed.

"A lateral incision, about four inches in length, was made; when the peritoneum was reached, it bulged into the wound; a free incision was made into it, and four or five ounces of offensive pus escaped. Although, as stated before, the patient was standing the operation well, yet my counsel would not consent that I should search for and remove the appendix.

"Patient died twenty hours after operation from exhaustion. The appendix was perforated at two points; one large gangrenous perforation, involving more than one-half of the diameter of the appendix, was located one-quarter of an inch from its attachment to the cæcum; there was diffuse peritonitis; intestines were largely adherent to each other about the site of the abscess, but were easily torn apart with the finger. There were several ounces of pus in the pelvis.

"It is remarkable that such a condition could exist without marked symptoms earlier in the history of the case, calling the patient's attention to the locality; and proves how necessary it is that the physician should be able to early suspect and detect these conditions. Had the operation been performed when I first saw the patient (Saturday night) and the appendix removed, I think this man's life might have been saved.

"I am sure that many cases are dying around us every year, and are called peritonitis, that are, at first, cases of appendicitis, and are not recognized as such."

The foregoing letter I have thought well to quote somewhat at length, because it amply confirms my opinion that cases of appendix disease occur much more frequently than was formerly supposed possible, and that they are now being recognized by the members of the general profession, owing to the attention which surgeons have, of late years, directed to the subject, and the publication of cases illustrating the characteristic symptoms of this disease and its differential diagnosis.

HYPERTROPHY OF THE PROSTATE GLAND.

Operations upon the prostate, whether for simple enlargement or tumors invading the gland, have been successfully performed. When ordinary palliative measures fail, a radical operation may properly be considered.

Dr. O. H. Allis has, twice during the year, performed supra-pubic cystotomy and prostatectomy. In one case, portions of the gland were removed, aggregating the size of a hen's egg. In the other case, two large tumors which weighed three and one quarter ounces were removed by digital manipulation. The patients were respectively sixty and seventy-six years of age, and both recovered.

Eigenbrodt, of Bonn, reports five operations, and expresses the opinion that it is possible, in almost every case of obstructive enlargement of the prostate, to perform a radical operation and excision of all those portions of the gland which protrude in the bladder; that the prospects are more favorable if cystitis has not advanced; that relief may be expected even in far advanced cases, and the patient may regain the function of voluntary micturition.[1]

Kuster states that Von Diltel's researches show that more commonly the obstruction to the flow of urine is due to the lateral lobes of the prostate which can be more readily reached by a median perineal section and continuing the incision around to the left of the anus. Kuster reports three operations and improvement at the end of some months in each.[2]

EXTIRPATION OF THE BLADDER.

Kuster reports the total extirpation of the bladder and prostate in a man fifty-three years of age, for malignant disease principally involving the prostate with papillary degeneration.

The bladder was exposed above the symphysis, a part of the pelvis was removed, when the bladder was easily separated from the peritoneum by a blunt instrument. The parts were then easily freed and cut away and the wound tamponed. The ureters were turned into the rectum and the mucous membrane of each sutured to the mucous membrane of the rectum.

This patient, as might be expected, perished. The stitches gave way and the urine escaped into the abdominal cavity. Although instances have been reported where the rectum was able to receive and retain the urine for some time, and I have had a traumatic case of this character, yet operations purposely undertaken to make the rectum a urinary receptacle can at this time hardly be considered in the line of surgical progress.

EXTIRPATION OF GALL-BLADDER AND TUMORS OF THE LIVER.

Among the novelties in our operations upon the viscera may be briefly mentioned the extirpation of the gall bladder, and the recently reported cases in which cystic growths and tumors of the liver have been removed.

At the Twentieth Congress of the German Society at Berlin in April last, Herr Sprengel reported[3] an extirpation of the gall bladder. A woman, forty years of age, had a history of continued pain, morphine habit, and inability to work, etc. After section the cystic duct was mistaken for the choledochus and this, on account of its enormous dilation was mistaken for the duodenum. A stone found in the first passage was pressed into the wide lumen of the choledochus, and the operator believed the gall passage to be then unhindered.

The symptoms were not relieved and a second section was made. Two stones were found, one in the cystic duct, when it was concluded to ligate this, and extirpate the gall bladder; the second stone which was found in the portal fissure was crushed.

A fistula was then made between the choledochus and the duodenum, and thus a proper direction was given to the bile. The patient recovered, and in three months was free from all symptoms.

Hocheneng reports[4] the removal of a large gumma from the margin of the right lobe of the liver; the

[1] *Beitrage Zur Klin. Chir.*, No. 8, 1891.
[2] *Centralblatt fur Chirurgie*,. No. 26, 1891.
[3] *Deutsche Med. Wochenschrift*, No. 36, Sept. 3, 1891, p. 1061.
[4] *Wiener Klinische Wochenschrift*, Nov. 12, 1891.

diagnosis being made subsequently to the operation. The liver tissue over the tumor was destroyed by cautery, when the tumor was dragged out by forceps and hooks. That portion of the liver treated was fixed to the abdominal wall by passing a (fibroma) needle through the tampon (which had been placed to control hemorrhage), and liver and tissue on either side. The patient is reported as being quite well, and was discharged on the forty-fifth day.[1]

A somewhat similar operation was performed by Dr. Keen, who, in reply to my inquiry, writes as follows: "As to the operation you refer to, I would hardly describe it as the removal of a cystic tumor of the liver, but rather of a cystic portion of the liver, because the liver had scarcely lost its normal contour, but had been transformed into a series of multiple cysts.

"The operation was done on October 9, 1891. The portion removed measured 3.5 inches vertically and the same transversely, and at the point of section was 2.5 inches thick. I removed it by the Paquelin cautery, excepting a tongue of the tumor which projected into the liver substance beyond the line of section, and which I was able to enucleate. This left two flaps of liver tissue roughly resembling the flaps of an amputation. These I united by five sutures.

"The patient's highest temperature was 101.2°, which was the immediate post-operation rise. After that it was barely above the normal. She recovered without incident, with the exception of a malarial attack lasting four days, in the third week after operation.

"So far as I have been able to determine by a fair search through the literature, I think this is the first resection or amputation of a part of the liver that has been done in this country."

RADICAL OPERATIONS IN HERNIA.

Hernia is such a common affection, and the difficulties and annoyances attendant upon wearing the ordinary forms of retentive apparatus are so great, that it is no wonder that attempts have been made from time to time to effect a radical cure by operative measures. The results of such treatment in general have been so very unsatisfactory that new methods are constantly being presented in the hope of solving the difficulty of permanently closing the inguinal opening.

Dr. William J. Bull read an interesting paper, recently, before the New York Surgical Society, "Notes on Cases of Hernia which have Relapsed after Various Operations for Radical Cure," in which he has endeavored to furnish some statistical evidence of the value of different methods. He refers to one hundred and nineteen relapsed cases at the Hospital for Ruptured and Crippled, and stated that "Although these cases must be a small proportion of the number operated on in the past few years, in this vicinity (New York), they certainly demonstrate that many methods are defective and likely to prove disappointing, if observed for a sufficient length of time. In view of the trifling mortality now attached to these operations; in view also of the recognized advantage in improving the conditions of irreducible, uncontrollable or strangulated hernia, it is wise to strive for better methods."

Dr. W. L. Estes, of St. Luke's Hospital, Bethlehem, Pa., has published (in the *Brooklyn Medical Journal*, July, 1891,) an account of another operation for the radical cure of hernia, which he says has given excellent results. Dr. Estes endeavors, by his operation, "to close the internal ring, obliterate the sac and close the inguinal canal," and he reports eight cases, five of which have passed the doubtful period and none have relapsed. "Tissues are incised down to the sac, which is carefully dissected out, up to and about half an inch within the internal ring, as in MacEwen's operation.

"When the sac has been thoroughly freed, it is held up by a clamp forceps, flattened out laterally, and that part which may extend below the external ring is cut off; then its vertical (as held) width is made to correspond to the depth of the wound by excising longitudinally as wide a strip as may be necessary. A suture of stout silver wire is passed through all the tissues from without inward, beginning on the inner side, while the index finger is held in the ring to protect the hernia, which may descend, and also to direct the point of the needle so that the arched border of the transversalis muscle and fascia on the inner, and the fascia near Poupart's ligament on the outer side shall be traversed. This suture is immediately tightened, and should close up the internal ring so completely that the finger cannot be introduced into the abdominal cavity. The two sides of the cut-off sac are now placed together (being very careful that peritoneal surfaces are in apposition). They are held together by forceps and sutured together by a loose cobbler's stitch of catgut. Then, beginning above at the inner ring, silver wire sutures are passed deeply through all the tissues forming the walls of the canal and fastened on either side, after drawing the sides firmly together by small cylindrical pieces of wood, five-eighths of an inch long and a little more than one-eighth of an inch thick, the wire being wrapped around the center of these 'quills.' The sutures should be sufficiently close together, so that a very small space intervenes between the ends of the quills as they lay parallel with the wound and about half an inch from the edge. These sutures also pass through the sewed up sac. The result of this suturing is to draw the sides of the canal firmly together below, with the flattened sac between, and raise the edges of the wound up in a ridge, so that the inner ring is closed, the canal filled up entirely, except the space occupied by the cord, and the sac entirely obliterated. The edges of the wound are now sutured by a continuous catgut suture. Union occurred in every case without suppuration."

Dr. Estes believes that, "If the method puts the tissues in such a condition of apposition and juxtaposition that they will unite *firmly* and promptly, and thus gain the immense advantage of primary union over the tedious granulation method, it saves much time of disability for the patient, besides assuring, by the primary union, a stronger protection against the return of the hernia than would be afforded by granulation tissue."

Of the numerous radical operations performed at the Pennsylvania Hospital, relapses have frequently been observed. Surgical opinion here, at least, seems to favor the radical operation if only to diminish the opening in large hernias, which cannot be retained by the use of a truss, and in cases favorable for such treatment.

Dr. D. Hayes Agnew, under date of November 30, 1891, in reply to my queries addressed to him on this subject, writes as follows:

"I have operated a number of times for the radical cure of hernia, and so far as results are concerned, with unpromising success; relapses usually occurring. I think, however, the operation should be

[1] *Medical News*, February 7, 1891.

made in all cases, requiring the knife, of strangulated hernia.

"A patient from Pittsburg, on whom I operated for strangulated hernia (femoral), and at the same time did the operation for cure, I have seen one year after and he remained well."

At the last meeting of the British Medical Association, Mr. Lawson Tait opened the discussion on "Treatment of Hernia by Median Abdominal Section." Speaking of the ordinary method of operating by removal of the sac and subsequent closure of the aperture, to this he found several serious objections. In cases of actual strangulation, it is never easy and is sometimes impossible; and in cases of all kinds it converts a relatively very simple operation into a severe one, it may be into one of serious gravity. He pronounced it, therefore, a proceeding with very little to recommend it. With regard to the question as to whether the sac is to be opened or not, he favors opening the sac when the usual operation is performed. He lays down three principles upon which we must base our work if we wish to make our operations for hernia curative and not merely remedial. These are, "That the strangulation must be relieved without any enlargement of the tendinous aperture through which the hernial protrusion has taken place; secondly. not only must the operation be in no way complicated, but it must be simplified to the utmost; and, thirdly, the peritoneum of the sac aperture must not be the only tissue of the opening in which amalgamation takes place, but the elements of the tedinous aperture must be agglutinated in order that the aperture may be effectually closed." He believes that all three of these principles may be fulfilled by a method of operating far easier and safer than any now in use; he advocates opening the abdomen by median incision, and to apply this method of proceeding to all cases of hernia in which operation is required, either for the relief of strangulation, with an operation for the radical cure superadded (as he believes it ought always to be), or merely for the cure of a chronic hernia. The arguments in favor of the method are:

"1. Accuracy of the diagnosis by digital exploration through the abdominal incision.

"2. Ease of manipulation and breaking up of adhesions.

"3. Facility of reduction of the hernial protrusion by traction as compared with pressure.

"4. No weakening of the tendinous pillars of the aperture.

"5. The sac need not as the rule be opened.

"6. In case it is necessary to make an artificial anus, the median line is the situation of election in preference to the unyielding tissue of the groin.

"7. In cases of complicated strangulation, incomplete operations, with their serious consequences, will be entirely obviated.

"8. The operation is comparatively simple and is easily performed.

"9. The proposed method fulfills the three requirements above mentioned.

"10. The result in most cases is a complete and permanent cure."

The operation has been done in a large number of inguinal and crural hernias by Mr. Tait, and he claims with the best results. He describes his method as follows: The abdomen being opened, "two common glover's sewing needles armed with one piece of salmon silk-worm gut, are fastened in some convenient needle-holder at a very slight angle to one another, so that their points completely coincide, and can be made to enter through one hole in the skin. The left forefinger covers or occupies the inner aperture of the sac, the needles are made to enter from without, and are then separated. The outer needle is then made to dip deeply into the external column of the ring, and the inner needle similarly into the inner column. The needles are then pulled out through the central incision, and as many sutures as may be thought desirable are inserted in this way. When the insertion of the stitches is completed, they can be tied from within and cut short. The abdominal wound is then closed properly and the operation is over."

It might here be added, as a matter of historical interest, in connection with this subject, that on October 26, 1883,[1] Mr. Lawson Tait read a short paper "On the Radical Cure of Umbilical Hernia by Means of Abdominal Section, and Sewing Together the Opposite Walls of the Sac," at the same time he recommended similar treatment for other forms of hernia. Mr. Tait, in urging his method, referred to the high rate of mortality in operations for strangulated hernias, and also to the increased size of the aperture made to reduce the intestine.

In another article contributed by Mr. Tait to the *British Medical Journal* for December 8, 1883, on "The Radical Cure of Exomphalos," this surgeon also rather prophetically speaks of the treatment of other kinds of hernia by abdominal section, using these words:

"I have an impression that the radical cure of hernia of other kinds than umbilical will, by and by, be undertaken by abdominal section; I am not sure but that it will be extended to operations for strangulated hernia."

Mr. Tait at that time reported that in performing an operation for the removal of an ovarian tumor, he relieved an incarcerated femoral hernia, and made a radical cure by closing the ring, effectually obliterating the opening.

TREATMENT OF ANEURISM.

In the *Annals of Surgery* for January, 1891, Dr. Lewis S. Pitcher furnished an editorial review of Macewen's operation as described in an address delivered before the Midland Medical Society a little over a year ago.[2] The operation in question was designed for the cure of aneurism by inducing the formation of white thrombi within the sac. This object is secured by irritation at different times of the interior surface of the aneurism; this being done by a pin of sufficient length to completely transfix the aneurism, and to permit manipulation within it. Its caliber should be as fine as possible; the strength being only sufficient to penetrate the coat of the artery and the intervening tissues. It is cylindrical, tapers to a point like an ordinary sewing needle, and has on the opposite end a somewhat rounded head; as the coats of aneurism vary in thickness it is necessary for the pins to vary in caliber, since those which may pass readily through the walls of one sac may not penetrate the thicker walls of another. They should also be finely polished, not only to facilitate their introduction, but to assist in rendering them aseptic. The object of the operation is to secure a white thrombus in an aneurismal sac by irritating the wall of the aneurism in such a way as to induce infiltration of the parietes with leucocytes, and a segregation of

[1] *British Medical Journal*, November 10, 1883.

[2] *British Medical Journal*, November 15 and 22, 1890.

them from the blood stream at the point of irritation. The irritation ought to be just sufficient to set up reparative exudation, and should not exceed it; if the irritation be pushed to such an extent as to induce softening of the vessel wall, not only would the object be frustrated, but the pressure of blood from within might cause the aneurism to burst. It is sought to have several foci of irritation, and in order to obtain this, the inner surface of the aneurism is lightly scratched by the pin, which is introduced through the wall at a convenient location, and the point is moved around in the interior of the sac so as to accomplish this in the manner indicated.

It is considered desirable to secure as many foci of irritation and thrombus-formation as possible, in order that the resulting clot may be large enough to occlude the vessel. "The operation is preceded by careful cleansing and asepsis of the skin over the aneurism. The aseptic pin is then made to penetrate the sac and pass through its cavity until it comes in contact with the opposite side, and no farther. Then irritation may be effected either by moving the pin over the surface of the inner wall, or by allowing the impulse of the blood-current playing on the very thin pin to produce the same result.

"If the wall penetrated by the pin on introduction, be dense, the former method will be preferable, as the force of the blood-current will produce so feeble an action on the thin pin as to be insufficient to move it to and fro, while it is firmly grasped by the dense wall. After acting thus for ten minutes at one part, the point of the pin, without being removed from the sac, ought to be shifted to another spot, and so on until the greater portion of the internal surface opposite to the point of entrance has been acted upon." In some cases several punctures will be necessary in order to reach a sufficiently large surface of the inner wall. While the pin is in the aneurism, the protruding portion is surrounded by a bit of aseptic gauze, dry or moistened with an aseptic solution. When it is withdrawn from the aneurism, the part is covered with a moist antiseptic dressing; for this purpose Dr. Macewen prefers a watery solution of carbolic acid, and he keeps this dressing in place for several days.

As Macewen's operation is of recent introduction, a brief record of a case in which it was tried during my service at the Pennsylvania Hospital last spring may be of interest. So far as I am informed, this is the first case in which the treatment of subclavian aneurism by this method was adopted in this country. The clinical record may be condensed in a few words.

William C., forty-two years of age, colored, was admitted into the hospital January 23, 1891. He was a day laborer accustomed to carrying heavy weight upon his left shoulder. He acknowledged having had chancroids four years before; but gave no history nor evidence of syphilis. The swelling was above the clavicle, and was first noticed four months previous to his entrance into the hospital, during which period it had steadily increased in size, and was attended by pain, both at the site of the tumor and in the arm and fore-arm. Upon admission, there was found a small pulsating tumor in the left supra clavicular fossa, which was tender upon pressure, and was attended by a slight systolic thrill, and a bruit upon rather deep pressure. Pains were neuralgic and extended down the arm. There was no marked difference in the force of the radical pulse on the two sides. Heart sounds normal; lung examination negative; had a laryngeal cough without expectoration. He was allowed to rest for two weeks in the ward, during which time the tumor became larger and softer, although he had been kept confined to bed; there was swelling of the arm, and tingling and pain extending to the fingers.

The operation was performed aseptically on February 7, and after irritating the internal wall quite extensively, the pin was left in the sac for twenty-four hours before removal. The operation caused little if any pain. On the day when the needle was withdrawn, it was noted that the tumor felt more resistent, as if it contained more clot; the swelling of the arm and tingling were less. Two weeks later the swelling and other symptoms were again increasing, and on February 21 the operation was repeated, and the same temporary relief noticed; and on March 16 and 17 the same results followed re-introduction of the needle. On March 27 the needle was introduced again, and this time it was intended to allow it to remain for three days before its withdrawal. Two days later, March 29, after complaining of severe pain, the patient became feverish and delirious, requiring the removal of the needle and morphine injection hypodermically.

The patient was feverish for twenty-four hours and depressed for several days, and then resumed his original condition. No permanent good effects were observed from the punctures, although the progress of the disease was apparently arrested and temporary relief afforded. While the tumor became for a time more dense, the good effect was not lasting. Subsequently, amputation of the arm was done at the shoulder, with simultaneous ligation of the brachial (axillary) and common carotid arteries.

The patient experienced much relief from the operation and made a good recovery from it, although the aneurism persisted. He was finally discharged, September 5, to return to his home. The tumor is still pulsating, and seems more superficial at this date, now six months since the amputation.

Kimura (*Revue International*, April 25, 1891,) reports a successful excision of a popliteal aneurism.

TENDON LENGTHENING.

Mr. William Anderson described, in a lecture at the Royal College of Surgeons,[1] a very ingenious method for increasing the length of tendons, which he first made use of in October, 1889, in a case of fixed contraction of the fingers. After exposing the flexor tendons above the wrist, they were split longitudinally for a distance of two inches, in such a manner as to leave one-half of the split portion attached to the proximal, the other to the distal end of the tendon. Two catgut ligatures completed the operation, which was followed by great improvement, complete extension of the digits, and voluntary motion, which was complete almost as to range.

The same idea of lengthening a tendon appears to have since occurred to other surgeons, however, independently of Mr. Anderson, who is entitled to the credit for first suggesting the operation and its practical application. Whether any danger is likely to ensue from such extensive unsheathing and manipulation of the tendon remains to be seen.

The suggestion has also been made that nerves, and even bones of the leg, might be treated in the same manner. Since nerves can be stretched with little or no danger, to any desired extent, it seems hardly likely that any such cutting operation will have consideration; and while an asymmetrical limb

[1] *Lancet*, July 18, 1891.

can so readily be made equal to its companion in length, by simply raising the heel of the shoe, it would hardly seem possible that any surgeon could seriously consider a resection of the tibia and fibula for the correction of such a condition.

CLUB FOOT.

Probably in no other branch of surgery have such varied opinions prevailed, even to this present, as in the consideration of this deformity, more especially equino-varus.

Dr. A. M. Phelps, of New York, in a recent paper on this subject, states: "The difficulties which the profession have encountered have been the varied methods and operations which, from time to time, have been urged as the cure for all cases. Primary osteotomy, astragalus resection, cuneiform tarsectomy, open incision, and prolonged and interrupted traction with intricate machinery, have all run the gauntlet of observation, and the road-side is everywhere strewn with lamentable failures."

This want of success, which is well recognized in the treatment of club-foot, will continue until the pathology of the deformity is better understood. In a recent paper on this subject, I pointed out that club-foot, in its pathology, closely resembles the infantile form of spinal palsy, if, indeed, it be not identical with it; and it seems quite reasonable to assume, in explanation of the different grades of this deformity as seen at birth, that the amount and character of the distortion is dependent upon the period of intra-uterine life, during which the paralysis occurred.

If in early fœtal life, there will in all probability be displacement of the tarsus; if late, the distortion will be due to contraction simply of the soft parts.

When a distorted foot is examined soon after birth, one or two conditions will always be found:

1. That the deformity is confined simply to the soft structures; or,

2. That in addition to contraction of the soft parts, the astralagus is displaced. This may be partial or complete; it may be pushed forward and be absolutely in advance of the tibia, or the tibia may rest partly upon the flattened posterior part of the astralagus and in part upon the os-calcis; or if the astralagus is displaced in front of the tibia, then the latter will be found articulating with and resting upon the os-calcis.

3. The displaced bone having developed under abnormal conditions, is more or less malformed, and can never assume the functions of a well-developed astragalus. Prof Leidy examined two such specimens after I had removed them, and was unable to recognize them as bones belonging to the human skeleton.[1]

If this view is accepted, there are but two forms of congenital equino-varus to consider:

1. *Simple, or uncomplicated*, varus and equino varus where the soft parts are only implicated, and which can be cured without operation, except perhaps occasional tenotomy.

2. *Complicated* equino varus, which is associated with complete or partial displacement forward of the astragalus, and which requires the partial or complete excision of this bone.

Later on in life we find a combination of these two conditions in the severe, aggravated, or so called inveterate forms of varus, or equino varus, which were originally either of the simple or complicated variety, but becoming inveterate, either from ineffectual or improper treatment, or neglect after operation, or from the entire want of treatment, requiring, according to the severity of the deformity, tenotomy, excision of the astralagus or cuboid, tarsectomy or open incision, or combination of these various operations.

In other words, that form of operative treatment must be adopted in the inveterate deformities so that the foot can be placed, and retained without any effort, in an easy, right angle position with the leg. This can be better secured, and with less serious injury, with the knife than by the aid of powerful levers and screws, which are still used by some surgeons for breaking the tarsal bones into position. Mechanical apparatus should not be depended upon to overcome deformity subsequent to operation, but simply to retain the foot in a normal position after the distortion has been corrected.

The statement made by Dr. Phelps that "equino-varus after any operation or mechanical treatment is likely to relapse," has long been recognized; indeed, all such cases require careful looking after for months, or even years.

TISSUE TRANSPLANTATION AND SKIN-GRAFTING.

Transplantation of tissue from inferior animals to man, for the purpose of assisting healing of large wounds by granulation, or by actual grafting of the tissue, is a procedure which has able advocates, and cases are reported of good results from this expedient. Dr. R. Haug, of Munich, suggests that the shell-membrane of a fresh-laid hen's egg, is highly applicable for this purpose. The part of the membrane only on that side turned towards the calcareous shell, is serviceable for transplantation. This seems particularly applicable to eye and ear operations. Dr. Alexander Miles, of England, reports a case of extensive burns of the leg, followed by an ulcer involving almost the entire lower portion of the left leg, in a boy ten years of age. The enormous extent of the wound precluded all possibility of covering it with human skin, and it was determined to use the skin of some animal. Miles selected a young, smooth-skinned dog for the operation. It was a week old, and its color was black and white. After having killed it with chloroform, the whole ventral and crural portion of the skin was excised, and a patch was formed consisting of the whole cutaneous tissue, with the exception of the adipose layer. In the meantime, the leg had been carefully cleaned and all blood had been removed from the granulations. The excised skin was divided into a number of strips, four inches long and a half-inch wide, and firmly pressed into the surface of ulceration, while smaller fragments of one inch square were used in filling up the gaps between the larger pieces. To a somewhat larger spot on the inside of the knee, a piece of smooth skin from the tail of the animal was applied. Then the whole was covered with a protective bandage, over which gauze imbibed with diluted boracic acid was added, and humidity was further maintained by a layer of gum-tissue, over which, finally, a thick layer of sublimate wadding and a firm bandage were applied. On the third day the bandage was removed for the first time, and, with the exception of a small fragment which was ulcerating and was removed, all other pieces were found to be firmly attached, and the cicatrization process beginning as well at the edge of the large ulceration as in the center. The healing process progressed rapidly, although some particles

[1] See article by author upon "The Pathology and Treatment of Club-Foot, Especially Varus and Equino-Varus." With brief reports of fifteen excisions of the astragalus for correction of the deformity. Reprint from the *Medical News*, July 12, 1890, p. 11.

of the large strip were ulcerating; all the smaller fragments were well attached. After three weeks, the spots remaining bare were filled up with human skin taken from a boy, and all were cicatrized in a short time. Six weeks after the beginning of the treatment, the ulceration was completely healed, but the patient was kept in bed for another fortnight and then he was allowed gradually to set the extremity in motion. When the boy was seen again, seven months later, there was absolutely no contraction to be noticed in the cicatrix, with the exception of a very slight condensation where the caudal skin had been implanted. The color of the whole skin was uniform and very similar to the normal color, nor was there any hair or secretion to be seen. It was even claimed that the tactile sense was not weaker than in the right leg, and there was no difference in temperature between the two limbs. The successful result in this interesting case was due to the skilful manner in which the operation was performed, and, perhaps, no less to the good judgment which governed the choice of the animal. At an early age, the animal grows very rapidly, and by transplanting a large portion of young tissue, endowed with an energetic growing force, it becomes possible to cover readily the whole surface of ulceration. This, moreover, prevents contractions which always make their appearance after extensive burning of the integument, if healing occurs without artificial intervention.

In connection with the preceding case, another instance of transplantation of tissue from a lower animal to the human subject may be cited. It is the case of a boy with ununited fracture of the bones of the leg, in which Dr. A. M. Phelps, of New York, practised bone-transplantation. In this case, the donor of the transplanted tissue was a dog two years of age, and the animal was not killed, but was confined in an immovable plaster bandage for three weeks. At this time the bandage began to get loose and the graft was cut from the animal. In this case the transplanted portion of bone was one inch in length, and had attached to it the nutrient artery. Although the experiment failed, because the fragment did not become consolidated with the shaft of the tibia, as was hoped, yet Dr. Phelps afterwards exhibited the boy in a much improved condition, and claimed that stimulation of the graft had excited a reparative process in the fracture which now promises fair to unite. This case obtained a great deal of notoriety at the time, owing to premature and exaggerated accounts finding their way into the public prints, sensational reports of the progress of the case appearing regularly in the daily papers.

Dr. Fenger, of Chicago, has presented a new operation for harelip, or rather a modification of the recognized practice in such cases; but for the details of the procedure I would refer to the address which was presented to the Section on Surgery of the American Medical Association, in May last; the main points in the operation recommended are the incision and prolabial sutures.

BALL LODGED IN THE NECK OF THE FEMUR.

At the October meeting of this Academy, I exhibited a lad aged twenty-three, who was admitted into the Pennsylvania Hospital, on the 14th of last August, with a revolver-shot wound of the thigh, the point of entrance being just to the inner side of the great trochanter. The track of the ball led to the neck of the femur, where it was found firmly imbedded in the bone, from whence it was dislodged with difficulty.

The ball was conical, and weighed 136 grains. This appears to be the only instance on record of this form of injury with such a clinical history.

The patient recovered without any interference with the joint-movements, and is now perfectly well.

PROGNOSIS OF MAMMARY CANCER AS AFFECTED BY OPERATIONS.

In discussing the results of operation in carcinoma of the mammary gland, and the probability of return of the disease within a certain period, it is evident that everything depends upon the correctness of the diagnosis. In fact, it has been intimated that in cases where a return of the morbid process does not occur at all, or fails to occur within a given period, there is more than room for the supposition that the original affection was not malignant. The method of systematic microscopic examination of such growths at the time of removal, is now urged as if it were a new procedure. It is due to the practical genius and foresight of Velpeau to say that he was the first to advocate this precaution, and to apply this method of systematic microscopic study of morbid growths in his clinical work, and at a time when many surgeons were sneering at histological investigation. The result now is (in the words of Bennett *loc. cit.*, page 245), that "we have the most positive proof that cancerous growths may be successfully removed by the surgeon, and the individual still survive in perfect health for periods varying from six to twenty years." The following letter from Velpeau to Bennett is sufficiently interesting to warrant its quotation in full.

(The references are to the pages of the first edition of Velpeau's work on "The Diseases of the Breast," where the cases will be found detailed at length.)

"54 RUE DE GRENELLE, ST. GERMAIN,
October 19, 1864.

"I can now inform you that the Demoiselle D. (page 584), operated upon nearly twenty years ago, and at present eighty years of age, remains cured and in excellent health. It is the same with Madame D. (page 584), operated on in 1847; with Madame G. (page 594); with Madame L. (page 596); operated upon twenty-eight years ago, and who are still living. Mesdames V. (page 684); H. (page 686); L. H. (page 608), and the man referred to (page 499), still live, and have had no return of the disease (to my former list I could now add 991 cases). I would especially refer to that of Madame de la Vie, ... who was operated upon six years ago for a lardaceous encephaloid, perfectly characterized, occupying the left breast. This lady, tolerably stout and otherwise strong, now possesses the most excellent health. It is the same with Madame de Mon; . . . . but the most extraordinary case is the following: A lady, B., who has been operated on *nine times* for a fungoid encephaloid of the right breast (four times by caustic, five times by the knife), under the same conditions as Madame H. (page 686), has now undergone a permanent cure. All these operations were practised during five years. After each of them the general health improved for some months. Then the growth reappeared, and it was necessary to commence once more. On the last occasion, it was necessary to penetrate to the ribs, and cauterize the surface. The wound, notwithstanding, at length cicatrized, and the former large excavation, occupying the whole side of the thorax in this courageous lady, is now solidly healed. She has recovered her embonpoint, and suffers in no way, and enjoys a health that leaves nothing to be desired. Everything went through the same course as occurred in the case of Madame H. (page 686).

"Such is the information in my power to give you, begging you to observe that in all these cases, as in all those to which I gave the name of cancer, every precaution, whether clinical or anatomical, was employed, and the diagnosis established by direct observation, careful dissection and microscopical research."

Results such as those referred to in the above letter could scarcely be improved upon even at the present

day. The precautions adopted to secure accuracy in the diagnosis and correctness of the statistics, probably are equalled by few surgeons of our own time.

In cases of carcinoma of the mammary gland in women, doubts have been recently expressed with regard to the value of removal of the affected breast. In view of the fact that the natural progress of the disease in some instances is slow, scarcely advancing, but rather undergoing atrophy, the propriety of operating in such cases may be doubtful. Unfortunately, such instances are the exception. Although the patient's general health may appear to be excellent, and the disease purely local, yet the suspicion must arise that the deposit is simply a local manifestation of a similar condition elsewhere. In any malignant tumor of the breast the question presents, Shall it be removed? At all events, the patient should have the benefit of any doubt; and it seems now well recognized that the earlier such tumors are removed, the better the chances are for success.

I think that the results following my own operations warrant the statement that pain and discomfort have been considerably lessened, and that life has been prolonged. In one case, at intervals of three years, I removed successfully the right, and subsequently the left breast, for ulcerative carcinoma, which would undoubtedly have resulted fatally very soon. Three years have elapsed, and the patient, although presenting a number of deposits about the neck and axilla, although a sufferer from sciatica, is able to be about as usual, and may live for many years.

Being desirous of having the benefit of the very large clinical experience of our ex-President, Dr. Agnew, upon this point, I addressed him a note of inquiry, and received the following in response:

PHILADELPHIA, November 11, 1891.

In regard to carcinoma of the breast, I am quite free to say that return, after removal, has been my experience. Neither the knife nor caustics cure mammary cancer.

Yours truly, D. HAYES AGNEW.

To this I might add that Dr. Agnew told, in a conversation upon this subject, that seven years was the longest time that any of his patients had survived the operation; and in my own experience eleven years is the longest period.

I am quite positive that Dr. Agnew is not alone among American surgeons, in giving such an unfavorable prognosis after operation in cases of mammary cancer. It seems evident, as Gross taught, that early operation affords the best prognosis. At the time many cases apply for treatment, the disease has made too great progress for a cure to be expected by operation, but in the removal of an offensive and painful mass, the patient is made much more comfortable, and often perishes from internal disease, without any of the distressing surroundings incident to extreme ulcerous conditions.

In concluding this rather desultory review of surgical work of the year 1891, I think that we may truly say that while not presenting any great strides, it has been marked by a healthy rate of progress. While great operations, such as have characterized previous years, appear to be wanting, yet there has been a steady improvement along the line. Better surgery is being done and more successful results are obtained, so that the statistics of operators generally, if they could be collected and compared, I feel convinced would demonstrate an improved technique and a decidedly decreased death-rate over any corresponding period, whether in this country or in Europe.

OBSERVATIONS UPON NATIVE DISEASES SEEN DURING THIRTY YEARS' RESIDENCE IN EQUATORIAL AFRICA.[1]

By REV. R. H. NASSAU, M.D., D.D., Univ. Pa.

[The following letter will explain the reason of offering these clinical notes and recollections, the fruits of thirty years' missionary and medical service among the natives of Africa.]

PHILADELPHIA, December 31, 1891.

Dear Dr. Morton:—In a recent conversation with you, you asked me to write out memoranda of some statements I made about diseases, especially surgical, as they came under my notice during my African missionary work. I submit you the accompanying outlines.

DR. R. H. NASSAU.

ECZEMA.

Eczema is very common on any part and often over large portions of the body; usually, on the entire hands, soles of the feet and on the scrotum and inside of the thighs. We foreigners—both traders and missionaries—often contract it. I have had it on the sole of one foot and on the inside of the thigh. We use for cure, lotions of carbolic acid and the "citrine" ointment. Natives use the powdered kernel of a fruit of a certain tree. I know the tree; it is common in the forest; it works up handsomely in cabinet ware, somewhat like mahogany, and its nut reminds me, in size, shape, appearance, odor and taste, of a nutmeg. Indeed, I suspected that it was nutmeg till I saw that the kernel was not surrounded by mace; and on reading up, found the nutmeg was not, like this tree, a large one.

ULCERS.

Ulcers, apparently phagedenic, of the leg, above and on the ankle, are very common. Their odor is fearful; they are very difficult to heal, requiring a long constitutional treatment in addition to any local applications. Often when I have succeeded in cleaning away the filthy fetid edges, and obtained an apparently healthy granulating surface, the sore would in a day run back to its former rottenness. They hang on for months. I do not know what are the leaves the natives tie on, or the decoctions with which they wash them. As to food, they refuse the patient fresh fish or fresh meat, and with unmerciful pressure they clean out the cavity with the fresh, spongy fibre of a plaintain stalk and almost scalding water. We use a mixture of powdered gum camphor, charcoal and Peruvian bark, locally; iodide of potassium internally, and finally heal up with iodoform.

SYPHILIS.

I do not know whether the natives had syphilis before white men came to Africa, but I am strongly of the opinion that venereal diseases are at least worse since white men came. And I happen to know that they were white men who taught (Portuguese and Frenchmen) the natives the crimes of buggery, sodomy and pederasty, and who made child prostitution more common than even under heathenism.

I often see ulcers of, or entire loss of, the nose, which may be lupus, but which I suppose to be syphilitic.

FRACTURES.

Fractures are not frequent. You will not wonder at this, if you remember that most of the fractures

[1] Read at the annual meeting of the Academy of Surgery of Philadelphia, by invitation, January 4, 1892.

and dislocations in your own experience arise from the implements of civilization. In my Africa, there are no roads, wagons, railways, engines, stairways, horses, gymnasiums, etc., from which to fall, or by which to be mangled. In my thirty years I remember meeting with but three fractures—one of the leg (a fall on a slippery rock), one of the forearm (an angry blow from a canoe paddle), and one of the thigh (a fall from one of the few horses at the sea-port of Gaboon).

ELEPHANTIASIS.

Elephantiasis is common, involving one or both feet and legs (never of the arms), and scrotum. I do not observe that the natives use any medicine for it, except as the disease grows and the toes begin to ulcerate or the skin of the foot to crack; they then tie on some (unknown to me) leaves. I know of one case cured by amputation. A young man had one leg largely swollen up to the knee; a medical missionary of our company (since deceased) in the early part of 1880, using an anæsthetic, successfully amputated the leg about the middle of the thigh. I constantly meet with that man now, traveling in his canoe and with his crutch, and there has been no re-appearance of the disease in the stump nor in any other part of his body. I am surprised at this, for, assuming the disease to be in the blood, I expected it would reappear; so did the doctor, and he so warned the young man; but the latter, weary of his burden, insisted on having the amputation performed.

CLUB FOOT AND OTHER DEFORMITIES.

Deformities are quite common, especially of the feet. (The natives wear no sandals or other foot covering.) Sometimes congenital, often arising from a blow, very often from infants being urged to walk too early, frequently from the eating away of tendons by adjacent leg-ulcers, or by inflammation in the knee or hip arresting development of the muscles of the leg. Nothing is ever attempted for the cure or relief of these. Extra fingers and especially toes are not rare. Albinism is frequent.

HYPERTROPHIES.

Hypertrophy of various parts of the body are not rare, especially of the scrotum. The natives seem to have no cure for this, and do nothing except to relieve the irritation of the usually accompanying eczema.

Their universal practice of circumcision (not as a religious rite, but simply as a requirement of custom) seems to save trouble with the penis. Circumcision is not performed until near puberty, occasionally delayed even till manhood. Most native women would feel ashamed or would ridicule the having of sexual connection with an uncircumcised of their own tribes. For connection with white men or with such tribes as do not practice circumcision, the ridicule does not seem to be manifested.

WOUNDS.

Wounds of all kinds are very common, from angry quarrels with large native knives or daggers; oftener cuts than stabs. The cuts fall generally on arms, shoulders, and backs. Natives do not know of healing by "first intention," apply irritating washes of red chillies (cayenne pepper), and have a long time in healing up. The cicatrix is always very obvious and prominently *in relievo*. Their tatooing in relief is thus obtained by scarifying and rubbing in irritants. Handsome tatoos are obtained from a vegetable dye blacker than their own natural brown. (I know the tree.)

Most of our natives are afraid to attempt surgery. They are afraid of blood and do not like to draw it, except in anger (though they practice cupping), and hesitate to handle it except to obtain drops from an enemy's blood for mixture in their fetish witchcraft (hoodoo) charms. The ruder tribes do sometimes attempt surgery, the coast tribes prefer to come to the white man.

Gun-shot wounds are common, especially of the hands. The miserable flint-lock muskets (made in Birmingham, England), burst with the fearful charges of powder thrust in by natives with a lot of slugs of broken iron pots or pieces of brass rod. The gun, in firing, is never held up against the shoulder, or in proximity to the cheek, it is held at arm's length by both hands. If the barrel explodes, only the hands or fingers are sure to suffer. The worst case of surgery I ever heard of was near my neighborhood, some eight years ago. Two friends were out hunting, separated in the forest, one mistook the other, in the thicket at a distance, for a wild animal, fired, and the slugs tore a hole in his breast. Our natives are fully aware of the desirability of extracting bullets, etc. The native doctor in the case, to get at the slugs, cut through the sternum and laterally between the ribs, and actually lifted up that side of the chest, peeped in, introduced his hand and swabbed out the accumulated blood from the wound. Then he sent for me to sew up the aperture. Of course, I did not go; the man died the next day. Even then, the relatives did not blame the doctor's surgery, but demanded (and obtained) a fine, as a blood penalty, from the unfortunate fellow-hunter.

Our natives are naturally mild and affectionate; but under anger, jealousy, and especially superstition, they become cruel and blood-thirsty, torturing and slowly cutting to pieces, or roasting their victims. The worst case of which I ever heard, and which shocked even the other heathens, was a cold-blooded revenge, some eighteen months ago. A polygamist in my region became jealous of one of his wives, a beautiful woman. His charge against her may or may not have been true, that she had a paramour. He told her "I will spoil your pretty face." With the aid of a slave he held the woman on her back on the ground, and with a razor shaved away all the flesh of her face, beginning just below the eyes and including the entire nose, cheeks, etc. He then bade her go back to her family, and he would claim of them the dowry money he had paid them for her. The woman actually walked the few miles to her mother's village. Her own people then refused to receive her, saying to her, "Practically you are or soon will be dead. If we receive you and you die on our hands, we will be barred from claiming a fine from your husband. Go back and die with him, and we will avenge you with his blood." She walked back; but her husband again sent her away. Her people finally received her and demanded his life. He weakened, and offered a slave for them to mutilate in the same way. They refused the slave as being not the worth of their free daughter's blood. Then he offered his own sister, but her husband saved her, as she was a mother, and therefore valuable to him. Finally, after weeks of quarrel, and many threats of blood-shed by the two armed parties that divided that entire tribe around the two families, the husband paid a blood penalty of several slaves and a

large money consideration. The woman was living at least four months after the mutilation, when I left Africa. I did not see her myself, but scores of my church members did, and they told me the story. I do not know whether she be still living.

A native heathen's house is practically a brothel. He has no sentiment against his wives having connection with other men, only so that it be with his knowledge, and that the payments be made into his hands. A man at Gaboon had thus hired out a handsome wife to the French doctor there. The woman, of course, submitted, but without any personal gratification, and meanwhile accepted a colored paramour of her own liking. When the husband discovered it, he, in rage, said, "If the Frenchman and I do not satisfy your longing, I will remove your longing entirely." He cut off the external genitals, and then, imitating the motions of coition, rammed a stick up the vagina. She survived a week or so, the French man trying to ease her sufferings; but he also shielded the husband before the French magistrate, so that he got off with only a slight imprisonment.

DROPSY.

Dropsies are frequent, especially abdominal. The natives know no cure for it. They are pleased to have white surgeons use the trochar and canula. There was among our mission natives a recent case of dropsy of the scrotum. It inflamed, burst, discharged, and the man (a married man who has had a great variety of diseases) survives.

TUMORS.

Tumors are very frequent:

1. Bursæ very common; on the wrist and hand involving the small bones; difficult of extirpation and liable to return.

2. Loose fibroid tumors on the elbow, shoulders, forehead and scapula; easily and safely extirpated.

3. Abdominal, which, as I observe them almost solely in women, I assume to be ovarian. But no native doctor would dare attempt an operation of this magnitude, and I am not aware that any operation for their removal has been performed at the Government Hospital. Diseases of the female generative organs are common. I regret much that I have no skill and little knowledge in that line. So much sorrow and pain could be relieved by an obstetrician or gynecologist. Early sexual connection makes the women sterile, and constant hard work in the plantations, and carrying of heavy baskets on their backs, even during pregnancy, cause frequent miscarriages. I am sure from their step, bent form, chronically-pained expression of face and symptoms at their menstrual periods, with dysmenorrhea and amenorrhea, as the poor sufferers describe to me, that cases of displacement of the uterus are frequent, probably also ulcers of the uterus. Prolapse is known.

It is not unknown that pregnancy has run beyond the length of twelve months. I know very well a woman who, to all appearance, was pregnant. She told me positively the date when her menses had disappeared; she was very full. On touching the abdominal walls, I could feel the child's motions; actually could see it bulge out the wall as it kicked. She was then in her eleventh month. At the proper time labor pains had appeared; but had permanently disappeared. Her husband then claimed that some unfaithfulness to him had closed her womb. He beat her with brass rods; I interfered. He flung her away in the forest to die. A month later I saw her alive and well, and subsequently she was safely delivered of a living child.

LEPROSY.

Leprosy is common. It is regarded with aversion by the natives, they trying to avoid sitting on the same seat or occupying the same bed with the leper. Yet they will eat with the leper, or wear his (or her) clothes, and while the young women object to marriage with him, his disease, if only incipient (a redness of the skin of the back and a smooth-drawn skin of the face), is not considered a bar-by the parents, their cupidity for his dowry-money overcoming their care for their daughter. In its incipiency they regard it as curable. I do not know the medicines used. Observing families in which it exists, I believe it transmissible hereditarily. In advanced cases, the toes and fingers fall off, and the lobes of the ears and alæ of the nose become frightfully enlarged; then, most natives, except near relatives, desert the patient, and require him to be isolated. It occurs oftener among males than among females. Were this disease as virulent as that of the Sandwhich Islands, I should have contracted it, for I travel so much among the people, sitting on their seats, sleeping, not on their bedding, but on their beds, and eating with them.

ABSCESSES.

Abscesses are very common and very painful.

1. Ordinary boils, of a regular healthy process of inflammation and discharge. Foreigners who, like myself, never have the African malarial hematuric fever (a malignant bilious remittent like the Panama fever), have to take, as an alternative, crops of such boils every year, at the beginning of the rainy season and lasting for several months.

2. An abscess that does not follow any description which I meet in the books, but somewhat resembles a carbuncle. It appears especially on the arms and thighs; runs in the deep facia; ramifies among the muscles; is indisposed to discharge; the skin above does not *point* in any particular spot (a l over the region of the inflammation being very hard) till after a week or two, from a slight elevation with a central, soft depressed spot, like the crater of a volcano, on incision, is discharged a thick, bloody ichor. Relief is obtained only by deep incisions. This abscess is common among the natives, especially among the males, but foreigners are afflicted with them also; I have had them.

3. I have seen the usual mammary abscess of nursing women, which are no worse than, perhaps not as frequent as, in civilization. But I have no memory (after considerable effort to recall anything of the kind) of having seen anything resembling cancer of the mammæ, lips, or indeed any other part of the body. The ordinary mammary abscess I mentioned above, have always healed readily and perfectly without any after re-appearances, and, in them, there is not the deep-seated pain, peculiar odor, or any other sign that would make me suspect cancer of the breast.

THE Surgical Institute at Indianapolis was destroyed by fire January 21.

A LANCASTER boy has bones so brittle that they break on the least provocation. Although but eight years old, his legs have already been broken seven times. This youth's vocation is evident. He should devote himself to getting put off public conveyances and suing the companies for injuries received. By strict attention to business he should quickly win a competence.

Original Article.

THE NERVOUS AND MENTAL PHENOMENA AND SEQUELÆ OF INFLUENZA.[1]

By CHARLES K. MILLS, M.D.

ALL practitioners have been struck by the prominence of nervous and mental phenomena in influenza; and much has been written, but mainly in a desultory way, about the symptoms of the disease which are referable to the nervous system, and its more or less persistent nervous and mental sequelæ. The part played by the nervous system in the etiology and history of the disease has been variously interpreted. One holds that it is "a nervous disease," without explanation; another describes it as a pneumogastric neurosis; another as a neuropathy due to ptomaine poison. According to Blocq, cited by Church[2], the primary infectious action takes place upon the nervous system during the disorder, while sequelæ are to be attributed to secondary infection from ptomaines. Cheston Morris,[3] of Philadelphia, advances the theory that the general symptoms of influenza may be traced to a derangement of function, or partial paralysis of the pneumogastric nerve, and that the affection is brought about by conditions of the atmosphere, which particularly tax the cardopulmonary apparatus which is regulated by this nerve, a view which, after all, relegates the disease to an atmospheric or infectious cause. Graves long ago referred the bronchial and pulmonary symptoms of grippe to lesions of the nervous power of the lungs, and Blakiston regarded it as a disorder of the nervous system, with concomitant derangement of the organs of digestion, circulation, etc. Levick,[4] who cites the last two authorities, holds that certain symptoms are produced when the poison is expended on the sensorium, and certain others when its influence is chiefly exerted on the respiratory centers.

The analogies or relationships between influenza and other diseases generally recognized as belonging to the nervous system, either primarily or because of the situation of their most notable lesions, have been strongly brought out by able writers, as by Levick, for example, who has even suggested that epidemic cerebro-spinal fever, or cerebro-spinal meningitis, may be simply a malignant form of influenza, a view to which he was led because of the resemblance in the symptoms of the two diseases which differ in degree rather than in nature, and also because for three centuries the two have occured coincidently or in close sequence.

Grasset and Rauzier,[5] in a monograph on the grippe of 1889–90, lay great stress on the enormous predominance of the nervous over the catarrhal elements in the epidemic, as evidenced in the high fever, great cephalalgia, the marked delirium, the widespread pain, and the excessive nervous irritability. They refer to cases communicated by M. Coustan, in which the entire symptomatology of the disease seems to have reduced itself to a horrible migraine. They review the literature which shows that writers of various countries are unanimous in proclaiming the importance of the nervous element—referring to Austrian, Russian, Belgian, German, English and Polish contributions.

According to Schmitz,[1] who read a paper on the subject before the Psychiatric Society, at Bonn, influenza is a disease of the nervous system with secondary involvement of the heart, lungs and digestive organs. In several hundred cases which he observed, the nervous symptoms were always primary, followed in every case by secondary involvement of the other organs.

What seems to be needed is an analysis and practical grouping of the facts, almost too numerous to handle, which shows the important part played by the nervous system in the development, progress, and results of the disease. How is the nervous system affected by influenza? What are its primary or direct effects on the nervous system, and what are some of the more persistent and permanent impairments, and how are these determined by the disease? What are its acute, nervous and mental phenomena, and what are the most common sequences? What is the probable pathology of these states, and what treatment is best in view of the neurotic characteristics of the affection?

The briefest consideration of the subject brings forcibly to mind the fact that all diseases of infectious or toxic origin—epidemic, endemic, sporadic, or accidental—may strike any or all parts of the nervous system with a result which will be proportionate; first, to the virulence of the infecting agent; and, second, to the resistance of the individual, whether this is due to constitutional predisposition, or to reductions, the result of previous injury or disease. The microbes may differ, but a bond of union and close resemblance can be recognized between the effects on the nervous system of all contagious and infectious diseases, as variola, scarlatina, diphtheria, measles, whooping cough, typhoid or typhus fever, leprosy, mumps, cholera, erysipelas, puerperal fever, influenza, or cerebro-spinal meningitis; of all of such constitutional and diathetic affections, as tuberculosis, gout, rheumatism, and diabetes; and of all such toxic agents artificially introduced into the system, as alcohol, mercury, lead, arsenic, copper, and poisonous gases. These diseases, these diatheses, and these poisonous metals and gases produce, or may produce, nervous and mental phenomena of the same character, differing in degree in particular cases and for special reasons.

In all these affections at the time of acute onset, if the illness is of a serious character, such symptoms are present, as great mental and nervous debility, irritability, restlessness, sleeplessness, or the opposite states of torpor, stupor, hebetude, or coma; delirium; vertigo or syncope; headache, browache, napeache, backache, and limbache; pains of all degrees of severity referred to various nerve areas; hyperæsthesia of the skin, of muscle-masses, or confined to nerve-trunks or branches; spasms, local or general, and with or without unconsciousness; sometimes mental disturbance amounting to a true mania or melancholia. During the progress of such affections any one or several of these enumerated symptoms may be present. Supra-orbital pain, for example, may be

[1] Read at the Philadelphia County Medical Society, January 13, 1892.

[2] Church: *Chicago Med. Record*, 1861.

[3] Morris: *American Lancet*, March, 1861.

[4] Levick: *Am. Journ. Med. Sci.*, January, 1864, and republication in pamphlet form, with notes of the influenza of 1889–90.

[5] Grasset and Rauzier: Leson sur la Grippe de l'Hiver, 1889–90; Montpellier and Paris, 1890; Monograph of 98 pages.

[1] Schmitz: Allegemeine Zeitschrift für Psychiatrie und Psychisch-gerichtliche Medizin, 179, 1891. Cited in *American Review of Insanity and Nervous Disease*, December, 1891.

the only prominent nervous symptom in a case of influenza; headache and backache in diphtheria; hyperæsthesia in mumps, diabetes, or gout; and mania in a case of puerperal infection. Any infectious or toxic disease may, in brief, produce the same symptom, syndrome, or train of phenomena; and—which is the main point—for the same reason, namely, because of the introduction into the system of an agent which directly and powerfully poisons nerve centers, and possibly also nervous conducting tissues.

Following all infectious, diathetic, or toxic diseases, moreover, or directly springing from them, common experience teaches that we may have great nervous or general weakness; forms of insanity of the depressive type; paresis and paralysis of every grade from an affection of a single muscle to that of all the extremities, and even more; localized spasm or cramp; general convulsions; pains in nerves, muscles and joints, and losses or perversion of sensation.

These symptoms and conditions, which may occur at the outset, during, or after the subsidence of any infectious or toxic disease, are those which constitute the nervous features of the prevailing epidemic. I have introduced the subject in this way because it seems to me that it is this comprehensive grouping of generically similar phenomena which enables us to most readily grasp a subject even for practical purposes. We differentiate phenomena in our daily labor, which we can only understand by properly grouping them, and by referring them to a common or to related causes.

Any attempt to classify the nervous and mental phenomena of influenza must be attended with great difficulties. These are, in the first place, symptoms and conditions which, although manifested in non-nervous organs, are directly traceable to a nervous origin; secondly, affections which would be recognized by all as properly referred to the nervous system; and, thirdly, affections occurring in nervous tissues and organs, although, strictly speaking, not nervous diseases.

I will refer very briefly to the first of these classes, although of much importance. I will not, however, discuss the nervous origin of the fever of influenza, nor will I attempt to explain the catarrh, indigestion, etc., on some neurotic theory, as such a method might lead us anywhere, and for our present purposes would be unprofitable. I wish simply to emphasize the fact that some of the most prominent pulmonary, cardiac, and vascular affections of influenza can best be explained on neural theories. Many personal observations have led me to the conclusion, not new, which has recently been well presented by Elliott,[1] of New Orleans, that the pneumonias of influenza are often due to vasomotor paralysis, that they are, in fact, forms of blood stasis or passive congestion from vasomotor paralysis, which in its turn is dependent upon the action of the infection upon the pneumogastric centers and the nervous system in general. A distinct difference can be made out between the true pneumonic lung and this "grip-lung," as it has been termed by Elliott. Graves long ago attributed the œdema of the lungs which occurs in influenza to an affection of the vagus.

"The grip-lung," according to Elliott, "has a long and very varying condition of passive blood stasis unaccompanied by râles. If resolution occurs within three or four days, it is accompanied by large mucous râles, and no time is given for the slow appearance of bronchial breathing or bronchophony; but during the long continuance of the blood stasis, an exudation occurs, increasing slowly, which will give, in time, some bronchophony and bronchial breathing, but never so complete as in pneumonia. Resolution never occurs in these cases with the suddenness that characterizes it in acute pneumonia. The condition passes off as gradually as it formed. The sharp, clear-cut and sudden phases of the pneumodic attack separate it clearly from the obscure, irregular, and slow phases of the *grip-lung*."

Many disorders in various parts of the body are best explained on this theory of local vasomotor paralysis, although it is not necessary to attempt to force this explanation for all. Hemorrhages, minute, or even of considerable size, occurring in divers localities, as in the retina, membrana tympani, and internal auditory apparatus, or in the skin, or mucous, or serous membranes anywhere, may be due to deficient vasomotor tonus. Brain, kidneys, liver, or pelvic organs may suffer from forms of passive hyperæmia, subacute or chronic, which are in fact due to forms of vasomotor palsy. Occasionally we meet with cases of vasomotor disorders of the extremities, such as flushed or pallid fingers.

Even trophic affections have occasionally been observed. Wilson,[1] for example, refers to gangrene of the lungs as one of the less common complications. Abscesses of the limbs have been recorded. Grasset records two observations of eschars occurring in young subjects in the absence of prolonged decubitus. The greater tendency in surgical cases to suppuration may have its best explanation in the depression of healthful vasomotor and trophic influence.

The peculiar forms of pulse, and the uncertain or perverted action of the heart, extending in some cases to cardiac palsy and death, are in a strict sense nervous phenomena due to paralysis, partial or complete, of the inhibitory apparatus of the heart.

Let me take up those symptoms and affections which would clearly be recognized as belonging to the nervous system.

I believe, with Church, "that the infection of influenza has a marked action upon the nervous system which may give rise to immediate acute manifestations or to remote and persistent conditions, and that in the predisposed, grippe is competent to cause marked excitement or great depression of the motor, sensory and mental nurvous apparatus."

Great nervous and mental prostration, both as an acute manifestation and as a persisting sequel, has engaged the attention and required the treatment of all practitioners. The mental depression often present as an initial symptom has been, in some cases, simply overpowering. Some of the patients are affected like individuals whose mental and motor centers have been poisoned to the limits of human endurance, while still permitting the retention of consciousness. In other cases even consciousness itself has been overwhelmed.

Not a few patients who suffered from attacks of influenza during the early period of the present epidemic are still victims of profound neurasthenia. I refer now to cases which are not distinctly of the melancholic type. These neurasthenics are unable to endure a fair amount of work; their nervous forces are soon routed; they are weak, worrisome and unrecuperative. The cardiac weakness which has been left is undoubtedly

[1] Elliott: *The Climatologist*, Vol. I, No. 1, August, 1891.

[1] Wilson: American System of Practical Medicine, Vol. I. p. 870.

in part the cause of this neurasthenia, and with reference to this, Church, says that "the persisting neurasthenic condition, which so usually follows influenza, is attributed by some to cardiac weakness of nervous origin, and this contention is not without weight, if it is observed that even after appetite, sleep, body-weight, and physical functions have been long restored, the slightest exertion immediately produces disproportionate fatigue, accompanied almost invariably by either a retarded or more frequently accelerated pus, and rarely by præcordial distress, and even by angina pectoris."

Curtin and Watson,[1] whose experience in influenza has been enormous, say that although general nervous prostration often extended over long periods without any discoverable local cause, it was always worth while to examine the urine with care. "Sometimes a nephritis, sometimes a faulty digestion or hepatic inaction seemed to underlie the general condition in latent form. These cases, by enforced rest and attention to local complications, gradually recovered. These cases and nervous cases generally, were very disappointing when sent to the sea-shore during convalescence."

Among organic nervous diseases which have developed during the influenza, or have been left in its wake, are in the order of their frequency, so far as my personal observation has gone, neuritis, meningitis, myelitis and cerebritis, or various combinations of these inflammatory affections, as, for example, concurrent neuritis and myelitis, meningo-myelitis, or meningo-encephalitis.

Probably no single affection of the nervous system has been so common during and after the grippe, and particularly as a sequel of the disorder, as neuritis. Almost every variety of neuritis, as regards location and diffusion, have been recorded, and have come under my personal notice. Multiple neuritis, while not common, has not been rare; and I have seen a concurrence of this affection with polio-myelitis in the same case. Isolated neuritis of almost every cranial nerve has been recorded, with such resulting conditions as optic atrophy, loss of smell and of taste, ophthalmoplegias, both internal and external; oculomotor, facial, and bulbar or pseudo-bulbar palsies of various types, including true pneumogastric paralysis. Several cases of specially located affections of the sympathetic ganglia or nerves have been recorded. Of the forms of local neuritis most common might be mentioned the supra-obital, intercostal, sciatic, and plantar.

An interesting case of neuritis with a myxædemoid condition of the limbs presented herself at the Philadelphia Polyclinic recently. She had a sharp attack of influenza five weeks ago, having been in good health up to that time, except five years since, when she suffered for several weeks with inflammatory rheumatism. On recovering from the influenza, the attack not having been especially marked with nervous symptoms, she was extremely weak in the legs, and was scarcely able to drag herself around. In a few days her feet and legs began to swell and to be painful, and soon became of enormous size and exquisitely tender. She has gradually improved, but still has a condition of firm swelling, which does not pit on pressure, from her knees to her ankles, and she also still has great tenderness on squeezing the feet or ankles, or in handling the nerves or muscles of the limbs. She has no cardiac affection.

[1] Curtin and Watson: *The Climatologist.*

The articular pain and other so-called rheumatic manifestations so numerous during and after attacks of the grippe, are after all best explained on the theory of infectious neuritis or myositis.

These cases with articular and other pains, and with swelling, recall the endemic or epidemic form of multiple neuritis known as beri-beri, in which the chief phenomena are œdema and paralysis of the limbs, with marked pain, hyperæsthesia and paræsthesia, followed later by anæsthesia, lost knee-jerk, and depressed electrical reactions. Myositis certainly, and probably also periositis, occur as complications or sequences of the influenza, and usually in association with neuritis of some type.

Many of the reports speak of the frequent occurrence of various neuralgias. Doubtless a distinction is seldom made by observers and recorders between neuralgia and neuritis, which are or may be separate affections. Practically these cases should be regarded as neuralgic, in which pain is referred to certain nerve lines or radiations; but in which pain on pressure, and the other phenomena of neuritis, such as anæsthesia, vasomotor, and trophic disorders and even paralysis, are absent. In my own experience the cases which could properly be diagnosticated as neuritis are by far the most common. The distinctively neuralgic pains are probably due to toxæmically depressed or exhausted sensory nerve-roots or centers in the cord and bulb.

Of diseases of the spinal cord proper, occurring as complications or consequences of influenza, the reported cases are not numerous, but they are none the less important. A few cases of myelitis have been put on record by native and foreign observers—one that I recall in which all four extremities were paralyzed. As would be expected, in accordance with the analogies with other infectious and toxic diseases, anterior polio-myelitis is the most common type. I have had several cases of temporary paralysis of one or more limbs, which, owing to the absence of pain and of cerebral symptoms, were apparently spinal in their origin, and probably light forms of inflammation. Concurrent multiple neuritis and polio myelitis has already been referred to as having been observed by me in one case, in which the neuritis, which was not severe, soon disappeared, but a limited paralysis, evidently spinal in character, was left behind.

Several observers have reported cases of bulbar paralysis, and one striking example of this disease, attributed to the grippe, has come under my own observation, although exactly how far the influenza was responsible it is difficult to say. This patient, a clergyman, had a severe attack of influenza in May, 1890, and during its progress continued to work, and ate but little. In a very short time he noticed he was losing power in his hands, which soon atrophied. In January, 1891, he began to have difficulties of speech, and, briefly stated, the case went on until November, 1891, when he was first seen by me. His symptoms were those of well-marked bulbar paralysis, with progressive muscular atrophy, chiefly involving the upper extremities.

In accordance with analogy, we would expect the occasional occurrence both of nuclear polio-encephalitis, and even rarely Strumpell's cortical polio-encephalitis. One or two of the few cases of probable polio encephalitis of the latter type have occurred in patients suddenly stricken with fever, loss of appetite, and other symptoms which may have been due to infection.

Priester[1] has reported the case of a man, fifty-four years old, who was taken with influenza in February, and in the beginning of March was seized with extremely violent headache, which resisted all medication; and later, the patient became deeply somnolent, remaining in this condition for four weeks. He could be aroused, but was apathetic, and soon slept again. Reflexes and temperature were normal; pulse, from 40 to 60. The patient had no paralytic symptoms, and slowly improved. His affection, according to the reports of the case, closely resembled Gerber's disease—paralyzing vertigo—although the latter is a disease of the warm weather. Tumor could be excluded by the absence of all focal symptoms a year before the attack. The most probable cause, he believed, was a pathological process, involving the central gray matter of the third ventricle, which would bring the disease into close relation with polioencephalitis of the nuclear type. Dr. G. J. Kaumheimer, who translated this report for the *Review of Insanity and Nervous Disease*, December, 1891, observed an exactly parallel case, which originated in April and lasted into July before recovery took place.

That meningitis, either cerebral, spinal, or cerebrospinal, occurs during the decline of the influenza cannot be doubted in the light of the evidence which has been presented by various observers, and particularly during the epidemic of the last three years. It is, however, a comparatively rare concomitant or complication. Some of the facts adduced as proofs of the existence of meningitis, and some of the cases reported as examples of the disease, are clearly instances of improper interpretation. The intense cephalalgia and rachialgia; the atrocious pains variously localized in the face, trunk, limb-nerves, muscles or joints; the vigilant delirium, with hallucinations and delusions, sometimes assuming great gravity; the intense vertigo, with or without nausea and vomiting—these and other well-known nervous manifestations, which are so prominent in many cases at the initiation of the disease, are not necessarily evidences of meningitis, or even of meningeal hyperæmia. Rather they are due to an overwhelming toxæmia of the nerve centers and of the brain. Severe and terrible in character at first, they frequently pass away almost as rapidly as they came, which would not be the case if they were the evidences of a true meningitis. The enormous prostration which is left behind shows that the centers of nervous energy have been subjected to a depressing agency of great virulence; not that merely enveloping membanes, composed mainly of fibrous tissue and blood-vessels, have been congested or inflamed. No reason could be given why such congestion or inflammation should leave such results.

The reports of cases terminating fatally because of meningitis, and even the reports, personal or official, of the frequent occurrence of this affection, must be received cautiously, and sometimes incredulously. They are only to be relied on when confirmed by autopsies, or when from observers who are accustomed to closely differentiate the meaning of nervous symptoms, and particularly of pain.

It may also be worth while at this point to refer to the somewhat frequent diagnosis of chronic meningitis as one of the sequelæ of the disease. This diagnosis is usually made because of the presence of more or less persistent pain in or on the head. Experience has led me to believe that this pain is usually neuritic rather than meningeal. Even deep-seated intracranial pain does not necessarily indicate meningitis. They may be due to neuritis, just as certainly as a pain in the hand or foot. The fifth nerve has an immense distribution within as well as outside the cranium, largely to the dura mater, but also to other tissues and parts. It is a pathological possibility to have dural neuritis without a pachymeningitis, and this is the true explanation of some pains, both acute and chronic, which are present in other diseases as well as in influenza.

The form of meningitis most likely to be present in influenza is inflammation of the pia-arachnoid or soft membranes, now often designated lepto-meningitis. From observations, corroborated by autopsies, I know that this affection may exist without pain; while pain of varying degree of severity, and usually intense, is practically invariable in pachymeningitis. Lepto-meningitis, however, is not usually without pain and hyperæsthesia as symptoms, but it may be absent, and its presence or absence will depend upon the location, extent, grade, and complications of the meningitis.

While believing that these criticisms upon the sometimes hasty, and the too frequent diagnosis of meningitis in influenza, and, indeed, in many other infectious and febrile diseases are just, and can be sustained, it remains true that a genuine meningitis, sometimes of malignant type, may appear during the progress or closely following influenza. Some very competent observers have reported cases of this character, and in a very few instances the diagnosis has been confirmed by autopsies. The diagnosis should be made to hinge upon the signs and symptoms which would be satisfying as to the occurrence of meningitis from any cause; not alone on the presence of such phenomena as headache, vertigo, and vomiting, but on such more convincing manifestations as optic neuritis, and localized spasms or palsies, either cortical or of cranial nerves.

The fact that meningitis, and even the cerebrospinal form, does occasionally occur in influenza, is by no means proof that this disease and epidemic cerebro spinal fever are identical. It simply emphasizes the point with which I started, namely, that every infectious or poisonous agent introduced into the economy may produce the same or similar pathological results in the nervous system. Largely according to the vulnerability, special or general, of certain tissues and organs, will be the preponderance of this or that form of so-called disease—for instance, of neuritis, myelitis, meningitis, cerebritis, or of combinations of these affections. All infectious and toxic diseases give neuritis as the most common acute or chronic inflammatory manifestation, although myelitis, cerebritis, and meningitis may occur. Even in cerebro spinal fever, as I was perhaps the first to point out, multiple neuritis is a common complication; but the infection being virulent and overwhelming, we may not only have meningitis, but even meningo-encephalitis, or meningo myelitis, with all their malignant phenomena and permanently disastrous results.

Vertigo is another symptom, like pain, often improperly referred to meningeal or cerebral inflammation. It is sometimes due to such disease, but occurring in influenza it may arise from other causes, as, for instance, from extravasations into the labyrinth or other portions of the auditory apparatus.

Müller[1] reports the case of a man, fifty years old,

[1] Priester *Wien. Med. Woch.*, No. 27, 1159, in *American Review of Insanity and Nervous Disease*, December, 1891.

[1] Müller: Berlin Klin. Woch., No. 37, 1890—cited in *American Journal of Insanity and Nervous Disease*, December, 1891.

who, after influenza, presented great physical exhaustion. In a few weeks his mind seemed affected, and he became somnolent, so that he could be aroused only with difficulty and would then fall asleep again. In this respect, the case was much like the one reported by Priester. Pain upon pressure was present over the vertebræ, the neck was rigid, the pulse was small and irregular, the skin reflexes were diminished, and the tendon reflexes were absent. In two weeks he began to improve. The author believed the case was one of spinal cerebro-spinal meningitis, similar to that seen after infectious diseases.

Without entering into a discussion of their pathology or their peculiarities, I will briefly mention a few other forms of nervous disorder, occurring during or as apparent sequelæ of the influenza, examples of which have come under my personal observation. Convulsions have been reported by various observers, and in a few instances the convulsive habit has been established, and the patients have remained up to the time of report as cases of epilepsy. I have seen two such cases. Hystero-epilepsy and other grave hysterical phenomena have been initiated, or have recurred in cases in which the symptoms had long been dormant. Of local spasmodic affections, I have seen no record, but one case of persistent clonic torticollis, with some pain and tenderness in the spinal accessory distribution, has been in attendance at the Philadelphia clinic. Two cases of facial paralysis, occurring immediately upon the heels of influenza, have come under observation.

Many affections not of, but occurring in, the nervous system, have been reported as complications or sequences of the influenza. These include such affections as apoplexy, due either to hemorrhage, thrombosis, or embolism. One of my Polyclinic patients, a man thirty seven years old, was attacked with influenza in January, 1890. He was not confined to bed, but suffered severely from headache, cough, and persistent general weakness, and in February he was suddenly paralyzed in the right half of his body, and completely aphasic. Well-marked cardiac murmurs were present, and the grippe in this and similar cases is probably causative by lighting up old endo cardial trouble, or through the blood dyscrasia and general prostration which it leaves.

Various observers have reported cases of monoplegia and hemiplegia, without indicating the pathological character.

Recently, in consultation, I saw a typical hemorrhagic apoplexy occurring in a case of influenza in a woman about sixty years old, who had previously been in fair health, and was not known to have had any disease of the kidneys or heart, although her vessels were somewhat atheromatous. Dr. S. S. Prentiss,[1] of Washington, has reported three cases of cerebral apoplexy occurring during the progress of the influenza; one was a man of fifty-seven years of age; another in a man of eighty seven; a third in a woman of sixty seven. One of these was probably hemorrhagic, the other two, from the histories, were probably from thrombosis. In cases of this character the infection of the disease acts to bring about an apoplexy both by the changes which it produces in the blood, by its effects upon cardiac action, and by the general debility induced. Such apoplexies might occur from other depressing causes; they are to be regarded not as phenomena, but rather as incidents of the epidemic.

[1] Prentiss: *Medical News*, August 29, 1891.

Uræmic convulsions in patients suffering from chronic Bright's disease have been precipitated by the influenza, and it has seemed to me to have been active in lighting up lurking syphilitic diseases.

In one case of paretic dementia of somewhat irregular type, seen in consultation, the initial symptoms of the disorder were observed soon after recovery from a severe attack of grippe, the wife and friends of the patient, in fact, attributing the mental disorder to this attack. The probabilities are that syphilis was present, but latent, prior to the epidemic.

Purulent meningitis and brain abscesses have been somewhat frequently noted in connection with the numerous instances of purulent otitis media.

The relations of influenza to insanity have not received much attention from writers. Mairet,[1] of Montpellier, has recently published a lecture on the subject delivered at his clinic for mental and nervous diseases. Rush, who is referred to by Mairet, speaking of the epidemic which lasted from 1789 to 1791, and particularly of the year 1790, mentions that several persons were stricken with symptoms of insanity, and that one attempted suicide; he also speaks of several having had hallucinations of sight. Bonnet, reporting on the epidemic of 1837, cites one case which was stricken with a furious mania as the result of the grippe; and Petrequin, referring also to the same epidemic, records several patients tormented by melancholly ideas, and states that four or five suicides were accomplished or attempted at the hospitals in Paris.

The following conclusions compress into small compass so much that is valuable, with reference to the relation between influenza and the psychoses, that I cannot do better than quote them. They are reported as the conclusions arrived at by Dr. Leledy, and were presented to the Medical Society of London by Dr. Savage.[2]

1. Influenza, like other febrile affections, may establish a psychopathy.
2. Insanity may develop at various periods of the attack.
3. Influenza may induce any form of insanity.
4. No specific symptoms are manifested.
5. The role of influenza in the causation of insanity is a variable one.
6. Influenza may be a predisposing or exciting cause.
7. In all cases there is some acquired or inherited predisposition.
8. The insanity is the result of altered brain nutrition, possibly toxic.
9. The onset of the insanity is often sudden, and bears no relation to the severity of the attack of influenza.
10. The curability depends on general rather than on special conditions.
11. The insane are less disposed to influenza than are the sane.
12. In rare instances, influenza has cured psychoses.
13. The insane may have mental remission during the influenza.
14. There is no special indication in treatment.
15. Influenza may lead to crimes and to medico-legal issues.

I can endorse, from experience, almost every one of these conclusions. With reference to the state-

[1] Mairet: Grippe et Alienation Mentale. Montpellier and Paris, 1890.

[2] Savage: *Lancet*, No. 3558, and *Medical News*, January 16, 1892.

ment that no specific symptoms are manifested, it should be said that while this, in a general sense, is true, the most frequent type is a form of melancholia.

The cases of active insanity have been observed at the onset of influenza and during its height, but more particularly during its period of decline and convalescence. The published cases have been recorded chiefly as instances of acute mania or melancholia. The commonest type of grippe mental disorder, as I have just stated, is a form of melancholia or lypemania; but as this not infrequently assumes the form of melancholia agitata, it is often regarded as mania by practitioners not accustomed to differentiate the varieties of insanity. These patients are intensely depressed and emotional; they are filled with apprehensions of disgrace and ruin; they believe that they will never recover their former health; they are suspicious and delusional with reference to those who surround them; they are frequently unwilling to eat, or to rest, or to take medicine; and in some cases they have definite delusions of terrible character, for the most part hypochondriacal or religious. They are frequently plagued with the thought of suicide, and sometimes make successful or unsuccessful suicidal attempts. They have been deprived by the ravages of the disease of mental and moral stamina. In the majority of these cases, but not in all, some hereditary or acquired predisposition is present. While, however, the grippe usually gives us mental disorder of special type—a form of delusional melancholia—under special conditions it may be the starting-point or exciting cause of any variety of mental disorder, as mania, paranoia, paretic dementia, hebephrenia, etc., but I can no more than glance at this phase of the subject.

The investigations of Church show that in each year in Cook county, Illinois, the epidemic of influenza has been attended by an increase in the number of proceedings for the commitment of the insane, which he believes cannot be explained by increase or movement of the populatian of the county.

Of the influenza occurring in hospitals for the insane, I have had no opportunity for observation except in connection with the insane department of the Philadelphia Hospital. A great disproportion has been observed between the number of cases occurring among the women and the men. One hundred cases are recorded as having occurred among 460 female patients; and only three in a larger number of men. The disease did not prove particularly disastrous among these patients, only three deaths having occurred from pulmonary complications. The cases were, as a rule, not of severe type; less severe than in an equal number of sane patients.

K. Helweg[1] has recorded the results and action of influenza in the Asylum at Aarhus, Denmark, and Pritchard has translated and summarized this paper for the *Review of Insanity and Nervous Disease*, for December, 1891. The account is of such interest that I will give it in detail: "The disease appeared in the asylum January 4, a few weeks after it had first been observed in the neighborhood. Out of 520 insane, 41 were so severely attacked that they were confined to their beds. The disease seemed decidedly contagious. It spread with difficulty on account of the wards being divided one from another. Eight of the 25 wards were spared altogether. When a ward would be invaded, the disease would rapidly run its course to proceed to another. The transmission of the contagion could be distinctly seen in the sick wards, where those stricken down in the other wards would bring the disease with them and transmit it to patients there. Seven patients had pneumonia. A relatively large percentage (six) died, of which four were from pneumonia. Among these was a man with such a severe cerebral disease that he must be excluded (the post-mortem results in the remaining five, which were women, were all more or less similar). The most essential results were extreme hyperæmia of the cranial bones and membranes, where the dura and the brain mass itself twice presented fresh and strongly vascular pseudomembranes with small hemorrhages as well. The veins and arteries of the thinner cerebral membranes were filled to bursting with blood; the large basal arteries were so filled with coagula that they stood out like cords, or those of an injected specimen. The brain substance itself was very hyperæmic, and its consistence increased. The average weight of these brains was about the ordinary of those of Aarhus. The writer also gives the history of the man mentioned, and those of the three other cases where influenza could not be diagnosticated during life, including the post-mortem findings of a case of influenza in a (sane) nurse who died of pneumonia. Here also was great hyperæmia of the brain and its membranes, yet not so pronounced as in the insane cases. The writer has seen influenza accompanied by severe psychic symptoms. In a few cases, the condition resembled the acute delirium, which, however, is transient, and seems daily controlled by antifebrin. On the contrary, in two hopeless cases of insanity, the disease had such a favorable and curative action that they may be regarded as cured. In both cases there was pneumonia."

The epidemic influenza has impaired the *morale* of the community. Lack of spirit in work, and an apprehensiveness with reference to health, business and all matters of personal interest are abnormally prevalent. The hysterical have become more hysteric; the neurasthenical more neurasthenic. Hypochondria has displaced hopefulness in individuals commonly possessed of courage and fortitude. In brief, certain neuropathic and psychopathic features have been impressed upon the community. We cannot afford even to dismiss entirely from consideration the bearings of the epidemic upon the increase not only of suicides, but of other grave crimes.

Many interesting questions in connection with treatment might be discussed; but as the subject of treatment has been assigned in this discussion to Dr. Hare, I will only speak of one point.

The use in influenza of hynotics, narcotics, sedatives and motor depressants is a question of particular interest in connection with the study of the nervous and mental phenomena of the disorder. The views of practitioners and writers are here decidedly at variance. Serious mental and nervous complications or actual insanities occurring during influenza, have been attributed to the too free use of such chemically powerful remedies as phenacetin, antipyrine, antifebrin, chloral, bromides, sulfonal and paraldehyde; and our older narcotics, such as opium, hyoscyamus, conium and cannabis Indica, have also come in for a share of blame. Persisting conditions of nervous prostration, and chronic respiratory and cardiac neuroses, have also been charged to drugs. Undoubtedly such criticisms have some foundation, but it remains true that each of the remedies named has proved itself of some value in the treatment of influenza, and particularly of its nervous types. The enormous consumption of a drug like antipyrine is a

[1] Helweg: Hosp. Tidende, R. 3, Bd. viii., S. 729.

practical argument both for and against its use. What Grasset has said of this remedy might with almost equal truth be said of almost any of the rest. "This agent," he says, "vaunted by some as a panacea against all manifestations of the disease, is considered by others a remedy absurd and irrational in all cases. The truth would seem to reside between these two extreme opinions."

In the *Montreal Medical Journal*, W. H. Hattie records a case in which the temperature varied irregular throughout the period of observation, as taken in the two axillæ. The case was one of mania, due to traumatism. The difference amounted at times to a degree. It was generally highest on the right side, but sometimes on the left.

Gastric Headache.—A large proportion of cases of "headache" are of gastric origin, and are amenable only to remedies directed to the defect underlying the condition. The slightest departure from the normal process of digestion favors the elaboration of more or less toxic nitrogenous products, the absorption whereof leads *inter alia* to remittent headache. The rage which at present exists for the use of analgesics, such as antipyrin, has diverted attention from the simpler, more effectual and (because more permanent) and less injurious method of treatment. Dr. Westphalen, of Berlin, points out that deficient acidity of the gastric juice is accountable for this symptom in a very large number of cases. He has tried the administration of dilute hydrochloric acid with the most gratifying results, the remedy being given immediately after a meal, and particularly after the ingestion of any special article of diet, which has already been noticed to be followed by the typical cephalalgia.—*Hosp. Gaz.*

Strontium.—Dujardin-Beaumetz makes some further statements as to the clinical uses of salts of strontium. The only salt of which he had had any experience was the lactate. This he had employed in a number of cases of Bright's disease, with albuminuria; under its influence he had the satisfaction of seeing the albumen diminish very considerably, in some cases being reduced to one-half of that previously excreted. He attributed this favorable action rather to the very beneficial action of the strontium salts on digestion than to their direct action on the kidneys. At the same time he pointed out that the greater or less quantity of albumen passed was of less importance in the prognosis of the disease than the proportion of toxines retained in the organism, which the renal filter either retains or allows to pass into the urine. He recommended that a milk and vegetable diet be employed in combination with the drug, which he gave in doses of ʒjss. per diem.

—*Brit. Med. Jour.*

Epidemic Influenza.—The regular meeting, January 13, of the Philadelphia County Medical Society, at which Dr. John B. Roberts presided, was devoted to a discussion of the prevailing epidemic of influenza, papers upon that subject being presented by Dr. F. P. Henry, Dr. R. G. Curtin, Dr. Charles K. Mills, Dr. L. F. Flick and Dr. H. A. Hare.

Dr. Henry's paper was on the diagnosis of the disease; and, at the outset, he said he had seen several instances where there was a propensity to attribute certain maladies to influenza without cause. He took it for granted, he said, that every physician present—and there was an unusually large attendance—believed the influenza to be a specific and infectious disease, which is proven by its pandemic prevalence and by its existence along lines of travel and human intercourse, and also by the diversity of symptoms observed. It had been called catarrhal fever, but this term had been criticized on account of the absence of catarrhal symptoms.

He had been called, he said, to see a boy who had gone to a theater apparently in perfect health, but who had to be driven home. In the morning his pulse was rapid and his temperature 105°, and his muscles full of aches and pains. There was no sore throat and no catarrhal symptoms. In the evening the temperature had fallen to 103°, and the next morning it reached normal and remained there. Two days after the fever had ceased a cough set in, and continued for about a week.

Pain in the limbs is a usual and prominent symptom, so much so that one writer had said that a patient is not able to keep still, on account of the aching, and unwilling to move, on account of the pain. It is an evident myalgia. In many cases there is great prostration, with feebleness of pulse, although the temperature does not exceed 103°, and reaches normal within a few days. The catarrhal symptoms seem more prominent near the end than at the beginning of a case. Deaths from the disease, he said, had not been so numerous as some years ago.

Dr. Curtin spoke of "The Influence of the Poison on the Heart," and said that in a former epidemic heart failure was a frequent association of the disease. In the winter of 1889–1890, deaths were largely due to heart failure and meningeal complications. The heart was generally the last to give out. In the present epidemic he had seen many cases of irregular heart. The pulse, although accelerated, was not weak, and these conditions of the heart were sometimes found connected with the so-called pneumonia. Angina pectoris or neuralgia of the heart, he said, had been observed very frequently, and, in cases not associated with organic disease, but in which there were attacks of asthma, with pain over the heart, and a tired, aching sensation in the left arm. According to his experience, more deaths resulted from meningitis than heart failure.

Dr. Mills' paper is printed in this issue.

Dr. Flick considered the treatment of the disease by rest and stimulants, and said that experience had shown that, unless a person was very much weakened, he generally came out the victor, as the disease was of short duration. He advised absolute rest to lessen the labor of the heart, as the experience of physicians had shown that it was impossible to compute the resisting power of an individual, and the greatest danger lay in the extension of the disease. Not only the body, but the mind should be at rest. He had found dry cups over the chest good treatment in engorgement of the lungs, and, as far as stimulants were concerned, he had seen excellent results follow the use of muriate of ammonia.

Dr. Hare's paper was on "The Treatment by Drugs," and the subject naturally overlapped that of Dr. Flick's. He considered the various symptoms and stages of the malady, and said that he considered strychnine a good remedy in the stage of depression, and should collapse come suddenly the drug should be given hypodermically, while milk punches and stimulants of that class would come in play during convalescence. He had not seen much good done with quinine.

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DOES VACCINATION AFFORD IMMUNITY FROM INFLUENZA?

THIS seems to be a day for the advancement of fanciful theories and fads, and every succeeding month is sure to bring to light something that, in the mind of the author, will altogether revolutionize that branch of medicine or surgery. Prominent among the later theories is one advanced by a German writer, who makes the claim that vaccination with bovine virus will prevent, or rather render a person insusceptible; to the action of the poison of influenza. It is impossible to arrive at distinct and definite conclusions in regard to any method of treatment in the short period of a few months, more especially if one confines himself to the narrow field of his own personal practice. Every method of treatment will fail in a certain number of cases; but, when failure follows failure, the method is usually dropped for something that is more efficient, at least in that run of cases.

It has been my privilege to review a large number of recent cases of influenza; not only in my own practice, but in that of a number of fellow practitioners. Although no definite records have been kept, a sufficient number of cases have been noted to draw the inference that this theory will not prove practical. A large percentage of the cases noted have been vaccinated at periods of one to six years past. One well defined case was in a child that was vaccinated but six months ago. It might be stated here that the vaccine "took" in these cases, and left well defined cicatrices at the point of inoculation.

Let us consider briefly (1) what influence is exerted by vaccination? (2) What is the cause of influenza? and (3) What immunity does vaccination afford from influenza?

(1) What influence is exerted by vaccination?

Vaccination is an inoculation of the attenuated virus of variola into the circulation. This attenuated virus does not remain in the circulation for years, but, on the contrary, is soon eliminated. It produces such a marked impression on every cell of the body that it remains for a variable period of time. In other words, the impression made upon these cells is lasting, and similar to that produced by variola itself. When one is exposed to the poison of variola, the cells are prepared and are not so greatly impressed by the poison, and, as a consequence, the disease is either aborted or very greatly mitigated in its severity. This cell impression does not afford immunity from other diseases, such as varicella, morbilli, scarlatina and other diseases, not even variola itself in some instances. Persons in whom vaccination fails to "take" are afforded the same immunity from variola as those who have been successfully vaccinated. This does not argue against the principle of vaccination, but shows an individual in whom the cells of the body are sufficiently toned to abort any disease at that time. Let such persons become debilitated and they soon succumb to the disease, or vaccinia, when tried.

2. What is the cause of influenza?

Influenza, like all other infectious diseases, is caused by a germ that simulates to a limited degree the germs of malarial fevers. This germ seems to be present in the air in certain localities, and produces epidemics of the disease. Careful study of every case of influenza demonstrates the clinical fact that the patient must be in a state of receptivity before the disease can develop—that is, there must be a lowering of the physiological functions of the body by mental or physical strain, exhaustion, grief, disappointment, worry, close confinement or disease. Every case, if carefully studied, can be traced to some predisposing cause. *A person in perfect health, who observes the laws of hygiene closely, will not contract influenza until his vitality is lessened by some intercurrent means.* One attack does not afford immunity from another.

3. What immunity does vaccination afford to influenza?

Present statistics will not warrant one in giving any credit to this theory, but will rather lead to the proof of its fallacy. That vaccination will not afford immunity in every case is readily proven as stated in the beginning of this article. A comparatively small number of the people at large have been vaccinated, hence the number of vaccinated influenzal patients will necessarily be small, which is the case. But the proportion between these cases and those who have not been vaccinated as compared with the people at large, holds good. On the same basis one might reason a previous attack of small-pox would afford immunity. This also is not infallible, for one of the worst cases of influenza in the practice of a brother practitioner was in a young lady who had a typical case of small-pox about fifteen years ago. That this patient had influenza is beyond doubt, for she had all of the characteristic symptoms.

It would not be logical reasoning to say that, if vaccination will prevent influenza, an attack of influenza would prevent the invasion of small-pox. Vaccinia itself is *not a certain preventive* of small pox, but undoubtedly proves effectual in a large percentage of the cases of those vaccinated. Influenza is an infectious, miasmatic, acute disease, not related to variola in any manner or symptom; its course, complications

and sequelæ are different, and there is no clinical fact to warrant the statement that vaccination will influence it in the least degree. If vaccination will afford immunity at all, it will be during the acute stage, when there is a well-defined vesicle on the arm, and the blood is ladened with the poison from it. It is possible for the poison of vaccinia to neutralize influenzal poison at that time, or the body cells may be so thoroughly impressed that they can resist the poison of almost any disease. This view of the subject does not seem probable, for the poison of vaccinia is soon eliminated from the blood, and all that is left is the cell impression.

These fact might be stated in concluding the subject:

1. Influenza is an infectious disease—not contagious;

2. No known remedy exerts a specific action on influenza;

3. Vaccination with bovine virus will not afford the least immunity from influenza;

4. The only hope of prevention lies in living up to the laws of hygiene and keeping the body in the best possible physiological condition;

5. Stimulants and drugs should not be taken with a view to prevent influenza, unless there is some physiological reason for so doing; they are unnecessary and of doubtful utility;

6. Heart depressants should never be given constantly, if at all, in influenza.

W. BLAIR STEWART.

Book Notices.

BOOK TALK.

THERE must be a market for medical formularies, as several have been quite recently published. The last is issued by the J. B. Lippincott Co., and has been prepared by Dr. J. C. Wilson, Jefferson's new Professor of Practice. It contains 262 pages, besides interleaves; with 2,595 prescriptions, tables, etc., and is yet of convenient size for the pocket. The price is two dollars.

OF the Physician's Leisure Library series, published by Geo. S. Davis, we have the last two numbers: "The Modern Treatment of Disease," by C. F. Stillman, M.D., late of the Chicago Polyclinic; and "Diseases of the Bladder and Prostate," by Hal C. Wyman, M.D., of Detroit. Both books are illustrated; the former especially. Dr. Stillman gives the treatment recommended by fifteen surgeons, besides his own.

GEORGE HERSCHELL, of London, presents a volume of 201 pages, cloth, upon "Indigestion; a Manual of the Diagnosis and Modern Treatment of the Different Varieties of Dyspepsia." (Baillière, Tindall & Cox, London.) While we cannot agree with the author in all his conclusions, especially as to the harmlessness of alcohol under certain conditions, yet we find this a very readable little book, with much good matter. It represents a good deal of work in a field whose importance, we fear, is hardly yet appreciated by many physicians.

The excellence of the paper and typography deserve a word of commendation.

DR. R. S. HUIDEKOPER has written a book of 217 pages on the "Age of the Domestic Animals," including the horse, ox, sheep, hog, and dog. The book is illustrated by 200 engravings. Published by F. A. Davis. Price, $1.75. The subject is very fully discussed, and the illustrations render it so easily understood, that any one should be able, from reading this book, to tell for himself the age of an animal; even when the teeth have been "bishoped" by "gyps" with intent to deceive.

"CONSUMPTION; HOW TO PREVENT IT, AND HOW TO LIVE WITH IT" is the title of a duodecimo by N. S. Davis, Jr., published by F. A. Davis. It is suited rather to the needs of the patient than to those of the doctor; though the latter will find plenty of useful hints with which to direct the consumptive. The price is 75 cents.

THE same firm issues Buret's disquisition on "Syphilis, in Ancient and Prehistoric Times," translated by Ohmann-Dumesnil. Price, $1.25. The author does not believe that syphilis originated in America; in fact, he claims that specific tibial exostoses are visible on the Troglodyte skeletons of Solutrè. If this be true, syphilis antedates matrimony; in fact, the cold of the glacial epoch was insufficient to chill the ardor of our primitive ancestors in the pursuit of strange women. Just emerging from the crowd of ignoble beasts, scarcely as yet de-tailed, man drops to earth from his apehood's home in the tree-tops, and finds himself confronted in the pursuit of innocent pleasure by the same old enemy that now saps the foundations of modern civilization. There was never a golden age.

PROFESSOR FORCHHEIMER'S book is on "The Diseases of the Mouth in Children." Published by J. B. Lippincott Co. Price, $1.25. This is a reprint from the *Archives of Pediatrics;* re-written with additions. It is a valuable work; and fills admirably an unoccupied niche in medical literature.

DR. G. FRANK LYDSTON, the well-known Professor of Genito-Urinary Diseases and Syphilology, of the Chicago College of Physicians and Surgeons, has published in pamphlet form a number of his essays and addresses; including: "The Evolution of the Local Venereal Disease;" "Tropho-Neurosis as a Factor in the Phenomena of Syphilis;" "The Rationale of Extension in Diseases of the Spinal Cord;" "Aberrant Sexual Differentiation;" "Gonorrhœa in Women;" "A Plea for Early Operation in Acute Peritonitis;" and "Materialism *vs.* Sentiment in the Study of Crime." Dr. Lydston is one of those tantalizing men who writes just enough to show of what great things he is capable; were he to concentrate his efforts upon a single group of allied subjects. Unfortunately, it is usually the man who has plenty of leisure from his scanty practice who writes our systematic treatises; while men like Lydston, whose wide experience renders their judgment of value, only find time to write detached papers. When Dr. Lydston presents us his systematic treatise upon the "Diseases of the Genito-Urinary System," it will receive a hearty welcome.

THE formal dedication of Michigan's new University Hospital, took place January 20. The formal exercises connected with the opening took place in University hall, and were presided over by President James B. Angell. Albert L. Gibon, of the United States Navy, delivered the principal address. The Rt. Rev. Bishop Gillespie and Mayor Doty also made speeches.

Medical News and Miscellany.

THE INFLUENZA.

By Dr. S. B. Straley.

Out of the East rose a small dark cloud,
Faint it was, and small to the gaze;
Quickly it rose 'bove the horizon,
Casting on earth a deepening haze.
Men gazed on the cloud, and no thought of fear
Came to tell them of danger lurking within;
While over this fair bright world of ours
The darkness crept, like the shadow of sin.

The cloud grew larger, men gazed in fear
As the shadow grew close to their own dear ones;
Like the angel of death in Pharaoh's land
It spared not the beggar or kings on their thrones.
Death hovered at morning o'er many young hearts,
E'er night they were stilled and pulseless and cold,
The home that at noontide was reveling in mirth,
At night was in sorrow too deep to be told.

Huntsville, January 19, 1892.

Berlin registered 1,410 medical students this winter, rather less than Louisville, Kentucky.

Londoners prefer their open fire-places, with all the disadvantages of poor heating, draughts, waste of fuel, and smoky atmosphere, rather than adopt the newer, and in every way better, methods of heating.

Dr. Thomas Noviega, the member of the International Executive Committee of the Pan-American Medical Congress for Mexico, is the Secretary of the National University, in the medical department of which seven years is the prescribed course of instruction.

The meeting of the Pan-American Medical Congress at Washington in September, 1893, is universally approved by the medical press. In view of the fact that the Congress will assemble under Government auspices, Washington is the only place where it ought to be held.

On January 21, the dailies reported the Paris hospitals crowded with influenza patients. At that date the epidemic had nearly died out in Philadelphia. The "wave" theory is evidently out of gear; or else the wave was checked by the Rocky Mountains and thrown back upon the Old World.

An Eighteenth-Century Poet's Precepts for the Maintenance of Good Health.—Prevention is better than cure, and it may be worth while to transcribe some good hygienic rules, formulated by Monsieur l'Abbé de Grécourt in his work published in 1772. They run as follows:

Tisane infallible contre toutes sortes de maladies.

Prenez deux grains d'indifférence,
Autant de résolution,
Dont vous ferez infusion
Avec du suc de patience.
Point de procès, point de querelle,
D'ambition, point de faux zèle,
Demi-livre de gaieté,
Deux onces de société,
Avec deux dragmes d'exercise:
Point de femme, point d'avarice,
Un bon grain de dévotion,
Point de nouvelle opinion,
Vous mêlerez le tout ensemble,
En l'infusant, si bon vous semble,
Avec deux doigts du meilleur vin,
Que vous prendrez chaque matin.
Vous verrez que cette pratique,
Au médecin fera la nique [mockery].

Dr. W. J. Abernethy thinks Socorro, N. M., a good locality for a sanitorium for persons with pulmonary complaints. The reasons he gives in favor of Socorro, are: "Its mild, dry, and pure atmosphere; its medium high altitude; its pure water; its bright and sunny days; its even temperature; its porous soil and natural drainage; and its accessibility to the general public."

Justice for the Sick.—The tax-payers of Cook county are now paying $125,000 a year to maintain the county hospital. This institution is supposed to be for the care of patients unable to secure proper treatment elsewhere.

But an unfortunate person stricken with a contagious disease is given no place for treatment by the county authorities. The door of the hospital is shut in his face, and he is compelled to secure treatment elsewhere as best he can.

Viewed from the side of justice and humanity, it is difficult to understand how the county commissioners can justify a constantly increasing expenditure for maintaining a hospital for non-contagious diseases, while refusing to establish a hospital for the care of patients afflicted with contagious diseases.

The county commissioners cannot afford to continue the present shocking condition of affairs. A contagious-diseases hospital is an absolute necessity. They should act on this matter immediately.

—*Chicago Daily News.*

Weekly Report of Interments in Philadelphia, from January 16 to January 23, 1892:

Causes of Death.	Adults.	Minors.	Causes of Death.	Minors.	Adults.
Abscess of ear		1	Inflammation bronchi	9	13
Apoplexy	9		" kidneys	2	1
Asphyxia		1	" larynx		2
Bright's disease	12		" spleen	1	
Burns and scalds		1	" lungs	44	28
Cancer	12		" heart	1	
Casualties	4	1	" peritoneum	5	
Congestion of the brain	1	3	" pleura	2	
" " lungs	5	8	" s. & bowels	5	4
Childbirth	1		" tonsils		3
Cholera infantum		1	" nerves	1	
Consumption of the lungs	67	10	Insanity	2	
" bowels		1	Jaundice		1
Convulsions		17	Marasmus		11
Croup		13	Measles		1
Cyanosis	1	3	Neuralgia of the heart	3	
Debility		3	Obstruction of the bowels		1
Diabetes	1	1	Old age	22	
Diarrhœa		1	Paralysis	12	1
Diphtheria	1	35	Poisoning, nicotine		1
Disease of the heart	28	1	Purpura hemorrhagica		1
Disease of the liver	1		Pyæmia	1	
" " spine		1	Rheumatism	1	
Dropsy		2	Shock, surgical		1
Dysentery	1	2	Sclerosis, spinal	1	
Effusion of the brain		1	Septicæmia	1	
Erysipelas	1		Sore mouth		1
Enlargement of the heart	3		Softening of the brain	3	
Emphysema	2		Suffocation		2
Fatty degeneration of the heart	3		Syphilis	2	2
Fever, scarlet		18	Teething		1
" typhoid	8	5	Tetanus		3
Gangrene		1	Tumor	1	2
Hemorrhage	2	1	Ulceration of the bowels	2	
Inanition		14	Uræmia	2	
Influenza	19	2	Whooping cough		1
Inflammation bladder	1				
" brain	2	7	Total	308	236

The Dispensary Question in New York.—During the past twenty years particularly, the attendance at the public and private dispensaries in New York, has attained such enormous proportions, as to give grave concern to the greater part of the medical profession; so that at the present time, though there is little, loud, outspoken condemnation, yet there are significant mutterings among the great masses of

honest, plodding practitioners, against the whole system; and there have been threats, which have not yet taken any definite form, but which it will not do to ignore. It has been suggested to organize a "Practitioners' Protective Association," the main objects of which will be to induce those who manage the dispensaries, to put some restrictions on the attendance of applicants and to demand of them certificates from physicians or other qualified persons, of proof of their poverty or inability to pay. In the event of this expedient failing, then to commence an open warfare against them all; commencing with the most powerful, the biggest sinners, by instituting an agitation in the public press, and endeavor to cut off their resources in every possible way. Besides this, resorting to more drastic and effective means; in proclaiming all teaching institutions which deliberately defy them, and cut off their financial supplies; by inaugurating a system of boycott, and endeavoring to discourage students from matriculating in them. This certainly would be an extraordinary course of pursuit; but a monstrous evil demands something more than chicken-hearted measures for its suppression.

—*Doctor's Weekly.*

ZADIG'S METHOD.—An admirable example of the application to medicine of this method of tracking used to be told with great gusto by my late friend, Dr. Milner Fothergill, and I regret greatly that I cannot tell it with the same power and vividness that he did. In the town of Leeds there once lived a quack who had received no professional instruction whatever, but was known far and wide for his wonderful cures, and especially for his power of diagnosing the diseases of patients whom he had never seen, by simply examining their urine. A celebrated surgeon, Mr. X——, wishing to see his method of working, desired to be presented one day, and the quack readily acceded to his request, feeling much flattered that so great a man should patronize him. Shortly after Mr. X—— had taken his seat a woman came in with a bottle of urine, which she handed to the quack. He looked at her, then at the bottle, held it up between him and the light, shook it, and said:

"Your husband's?"

"Yes, sir."

"He is a good deal older than you."

"Yes, sir."

"He is a tailor?"

"Yes, sir."

"He lives at Scarcroft?"

"Yes, sir."

"His bowels are obstinate?"

"Yes, sir."

"Here," he said, handing her a box of pills, "tell him to take one of these pills every night for a week, and a big drink of cold water every morning, and he will soon be all right."

No sooner had the woman gone out than Mr. X—— turned to the quack, curious to know how he had made out all this.

"Well, you see," said the quack, "she was a young woman, and looked well and strong, and I guessed the water was not hers. As I saw she had a wedding ring on her finger, I knew she was married, and I thought the chances were it was her husband's water. If he had been about the same age as she it was hardly likely that he was going to be ill either, so I guessed he was older. I knew he was a tailor, because the bottle was not stopped with a cork, but with a bit of paper rolled up and tied around with a thread in a way that no one but a tailor could have done it. Tailors get no exercise, and consequently they are all very apt to be constipated. I was quite sure that he would be no exception to the rule, and so I gave him opening pills."

"But how did you know she came from Scarcroft?"

"Oh, Mr. X——, have you lived so long in Leeds and you don't know the color of Scarcroft clay? It was the first thing I saw on her boots the moment she came in."

Now, of late years we have got so many new methods of investigation that we are sometimes apt to forget the old habits of close observation by which this quack made out so much, and proved himself, although without any diploma, a worthy descendant of the water doctor, whose picture by Gerard Dow occupies such a distinguished place in the gallery of the Louvre.

—Lauder Brunton, in *The Lancet.*

DO YOU know the advantage of being able to furnish your own medicines at the bed-side? You know that your patients are getting just what you want them to have. You do not have to await the tedious delay of the drug store. You have given your patient something tangible that gives you more the appearance of having earned your fee. But the great advantage is that when the medicine has been used up the patient cannot take the responsibility of the case into his own hands and have the bottle or box refilled with medicine which, most likely, he no longer needs, thus cheating himself out of the continuance of skilful professional management, and yourself out of a well deserved fee. On the contrary, he can do nothing but return to you, from time to time, for re-examination and medicine adapted to the changed conditions. Thus he is more skilfully treated, you are better paid, and both are better satisfied.

But it is inconvenient to measure powders or prepare liquids. Very well, then get your medicine in the form of the most active principles, the alkaloids, resinoids, glucosides, metalloids, etc., made into minute granules. You can carry a supply of sixty or more drugs in that form in your inside coat pocket. Send one dollar to the Philadelphia Dosimetric Company, 2009 Arch street, for one of their fine leather vest-pocket emergency cases of twelve vials of one hundred granules each. Actual value, three dollars. This will show you what you can do with granules. Then you will soon do all your practice with them.

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